

Bond University

DOCTORAL THESIS

Law, culture, financial market development and global investment strategy: Lessons from the Middle East and North Africa.

Arqawi, Bayan

Award date:
2016

[Link to publication](#)

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal.

**Law, culture, financial market development and
global investment strategy:
Lessons from the Middle East and North Africa**

A thesis presented

by

Bayan M. Arqawi

to

the Department of Finance

in partial fulfilment of the requirements for the degree of

Doctor of Philosophy

(with a coursework component)

in the subject of

Finance

Bond University

Queensland, Australia

May, 2016

ABSTRACT

This thesis consists of two essays that address the intersection of law, culture and finance. The ‘Law and Finance’ theory is augmented to account specifically for the historical complexity in legal origin and the variability of legal structure that exist in the Middle East and North Africa (MENA). The underlying theme throughout this thesis focuses on the role that law and culture play in shaping financial markets and global investment opportunities. How the legal environment and the prevailing Islamic culture shape financial market development in the MENA region is the subject of Essay 1. This is followed by an analysis of the determinants of US mutual fund investment in MENA firms in Essay 2.

The first essay examines how the legal rules protecting creditors and shareholders, law enforcement, judicial efficiency, legal duality and the prevailing Islamic culture influence the development of credit and stock markets in 21 MENA countries for the period 2007-2012. The results from OLS and bootstrap regressions show that the availability of more credit information and the quality of the collateral and bankruptcy laws are critical in the development of credit markets, whereas, disclosing self-dealing transactions and protecting minority shareholders advance stock market development. However, stock market development is deterred when shareholder protection mechanisms allow aggrieved shareholders to sue for self-dealing transactions or access to information to examine self-dealing. Not only does the quality of the legal rules matter, but also the extent of its enforcement is a strong determinant of financial market development. Additionally, the judicial efficiency in resolving commercial disputes marginally benefits financial markets. The duality in MENA legal systems creates investment uncertainty that dampens financial market development. Countries with less Islamic endorsement in their institutions operate more advanced financial markets.

The second essay investigates whether US mutual fund investments in MENA firms are influenced by the quality of the legal environment and financial market development as predicted by the ‘Law and Finance’ theory. Using the investments of 438 US mutual funds in 7,986 locally listed firms in 11 MENA countries for the period 2008-2012, the logistic and tobit regression results reveal that reducing information asymmetry is key to attracting US mutual fund investment. Well-developed stock markets and the existence of shareholder protection mechanisms related to information disclosure quality are both positively associated with US mutual fund investment. However, remedial shareholder protection mechanisms in the form of ease of litigation and the ability to hold directors liable for misconduct are not associated with US mutual fund investment. Empirical evidence also suggests that MENA firms may overcome the

legal environmental shortcomings by signalling quality to foreign investors through adopting IFRS or via appointing a ‘big-four’ auditor.

Overall, these two essays contribute to the ‘Law and Finance’ literature. Countries with complex legal systems require a more exacting legal characterisation beyond the historical narrative or legal origin. Further, only ‘pre-emptive’ shareholder protection mechanisms related to the disclosure of self-dealing attract foreign capital and promote stock market development. Finally, culture should not be overlooked as a determinant of financial market development as culture reflects attitudes and norms not easily detectable and quantifiable in the law.

DECLARATION

This thesis is submitted to Bond University in fulfilment of the requirements of the degree of Doctor of Philosophy. This thesis represents my own original work towards this research degree and contains no material which has been previously submitted for a degree or diploma at this University or any other institution, except where due acknowledgement is made.

Signature:

Bayan M. Arqawi

ACKNOWLEDGMENTS

I am profoundly thankful to my supervisors Li-Anne Woo and Laurie Prather for their rich comments, lengthy discussions, time and patience throughout the study. They both engaged in an active mind and a willing heart to help me succeed and accomplish this thesis. I appreciate them both not only as helpful supervisors with sharp intellect, but also as esteemed professionals with great integrity.

I also thank the administrative supervisor, Mark Spence, for managing the thesis progress smoothly. I extend my gratitude to Gulasekaran Rajaguru and Tom Smith for their helpful workshops and econometric advice. The financial support from the Australian Government is gratefully acknowledged.

My friends, David Perry and Will Bertin are sincerely thanked for being consistently supportive and inspiring.

Finally, and most importantly, I am indebted to Ghassan Jaser who enlightens the dark moments and makes all things possible.

TABLE OF CONTENTS

ABSTRACT	i
CHAPTER 1 Introduction.....	1
1.1. MENA background	3
CHAPTER 2 Legal environment, culture and financial market development: Evidence from the MENA	10
2.1. Introduction	10
2.1.1. Research questions.....	12
2.1.2. Contributions and objectives	12
2.1.3. Essay structure	13
2.2. Literature review.....	15
2.2.1. ‘Law and Finance’: commonalities, controversies and criticism	15
2.2.2. Culture	24
2.3. Development of MENA legal systems	28
2.4. Research design	32
2.4.1. Sample	32
2.4.2. Index construction	32
2.4.2.1. Anti-director rights index	32
2.4.2.2. Sharia constitutional role	37
2.4.2.3. Islamic culture	43
2.4.3. Model.....	46
2.4.4. Variables	47
2.4.4.1. Financial market development.....	48
2.4.4.2. Legal environment	49
2.4.4.2.1. Investor protection	49
2.4.4.2.2. Law enforcement.....	50
2.4.4.2.3. Judicial efficiency	50
2.4.4.2.4. Dual legal system	51
2.4.4.3. Culture	51
2.4.4.4. Control variables	51
2.4.5. Estimation	65
2.5. Empirical analysis	71
2.5.1. Univariate and bivariate analysis	71
2.5.2. Multivariate analysis.....	86

2.5.3. Robustness analysis	109
2.6. Conclusion.....	111
2.6.1. Summary and implications	111
2.6.2. Limitations.....	114
2.6.3. Further research	115
CHAPTER 3 Determinants of US mutual fund investment in MENA	116
3.1. Introduction	116
3.1.1. Contributions and objectives	118
3.1.2. Essay structure	120
3.2. Literature review.....	121
3.2.1. Legal environment	123
3.2.2. Stock market development	126
3.2.3. Firm’s discretionary policies	127
3.3. Research design	131
3.3.1. Sample	131
3.3.2. Model.....	133
3.3.3. Variables	135
3.3.4. Estimation	139
3.4. Empirical analysis	142
3.4.1. Descriptive statistics	142
3.4.1.1. US mutual fund investment in MENA	142
3.4.1.2. Univariate analysis	151
3.4.1.3. Bivariate analysis.....	156
3.4.2. Regression analysis.....	163
3.5. Conclusion.....	179
3.5.1. Summary and implications	179
3.5.2. Limitations.....	180
3.5.3. Further research	181
CHAPTER 4 Final remarks	183
APPENDICES	187
BIBLIOGRAPHY	280
LEGISLATIONS.....	292

LIST OF TABLES

Table 2.1 Former coloniser and year of independence for MENA countries	30
Table 2.2 Anti-director rights index for MENA countries	34
Table 2.3 Laws and regulations relevant for shareholder protection	35
Table 2.4 Constitutional role of Sharia	40
Table 2.5 Islamic institutionalisation index	45
Table 2.6 List of variables for essay 1	52
Table 2.7 A summary of the model for financial market development	64
Table 2.8 Descriptive statistics for essay 1	76
Table 2.9 Pearson correlation matrix	78
Table 2.10 Frequency table for investor protection by legal origin	82
Table 2.11 Frequency table for Islamic culture and Sharia index by legal origin	83
Table 2.12 Testing the equality of mean and median for legal origin.....	85
Table 2.13 OLS results for financial market development and legal origin	87
Table 2.14 OLS results for credit market development and creditor protection	92
Table 2.15 OLS results for stock market development and shareholder protection	93
Table 2.16 OLS results for financial market development and law enforcement.....	97
Table 2.17 OLS results for credit market development and judicial efficiency.....	98
Table 2.18 OLS results for stock market development and judicial efficiency	99
Table 2.19 OLS results for credit market development and Islamic culture.....	102
Table 2.20 OLS results for stock market development and Islamic culture	103
Table 2.21 OLS results for financial market development and legal duality.....	106
Table 2.22 OLS results for influences on credit market development.....	107
Table 2.23 OLS results for influences on stock market development.....	107
Table 2.24 Economic significance for influences on financial market development	108
Table 3.1 Morningstar [®] Principia [®] coverage	119
Table 3.2 List of variables for essay 2.....	138

Table 3.3: Prospectus objective for the US mutual funds investing in MENA.....	143
Table 3.4: Equity style box for the US mutual funds investing in MENA	143
Table 3.5 US mutual fund investment in MENA by country (2008-2012).....	145
Table 3.6 US mutual fund investment in MENA by sector (2008-2012)	147
Table 3.7 MENA firms and US mutual fund investment (2008-2012).....	150
Table 3.8 Descriptive statistics for essay 2	152
Table 3.9 Descriptive statistics by country	155
Table 3.10 Pearson correlation matrix	157
Table 3.11 Frequency table for investment by shareholder protection	158
Table 3.12 Means test for financial market development and shareholder protection.....	161
Table 3.13 Frequency table for investment by discretionary policies.....	162
Table 3.14 Logistic results for investment, legal environment and financial market development	167
Table 3.15 Logistic results for investment and the interaction between shareholder protection and financial market development	171
Table 3.16 Logistic results for investment and accounting standards selection	176
Table 3.17 Logistic results for investment and auditor selection.....	177

LIST OF FIGURES

Figure 1.1 Thesis essays	3
Figure 1.2 Map of the MENA region	4
Figure 1.3 MENA capital (2007-2012)	6
Figure 2.1 Distribution of legal origin	17
Figure 2.2 Map of Ottoman Empire (1299-1922)	28
Figure 2.3 Western controlled territories in the 20th century	29
Figure 2.4 Financial market development framework	47
Figure 2.5 Bootstrap replications selection	69
Figure 2.6 Comparative creditor protection: (average 2006-2011).....	72
Figure 2.7 Comparative shareholder protection: (average 2006-2011)	73
Figure 2.8 Comparative Islamic culture	75
Figure 2.9 Comparative Sharia index.....	75
Figure 3.1 Construction of the sample	132
Figure 3.2 MENA universe of investable firms	132
Figure 3.3 US mutual fund investment in MENA by country (2008-2012)	146
Figure 3.4 Number of US mutual funds in MENA by country (2008-2012).....	146
Figure 3.5 US mutual fund investment in MENA by sector (2008-2012).....	148
Figure 3.6 Number of US mutual funds in MENA by sector (2008-2012).....	148
Figure 3.7 Risk and return profile for MENA firms	149
Figure 3.8 Predictive margins for shareholder protection indices.....	168
Figure 3.9 Predictive margins for shareholder protection indices by legal origin	169

APPENDICES

Appendix 1 Shareholder protection in MENA countries	188
Appendix 2 Constitutional role of Sharia.....	233
Appendix 3 List of variables used in the ‘Law and Finance’ literature	239
Appendix 4 Descriptive statistics by country	250
Appendix 5 Bootstrap results	264
Appendix 6 Tobit results	274

CHAPTER 1

Introduction

This thesis investigates the relationship between the legal environment, culture, financial development and investment in the Middle East and North Africa (MENA). Whether legal environment and culture add a layer of friction or serve to enhance financial market development, both elements are integral parts of the global investment environment. The thesis is informed by the ‘Law and Finance’ theory advanced by La Porta, Lopez-De-Silanes, Shleifer and Vishny (LLSV) and the subsequent research critiques. MENA is a rich research setting as it has a complex and varied history of legal origin and the country-level legal environments are moderated to different degrees by Islamic cultural factors.

The motivation for this research stems from the interconnectedness of financial market development, legal and cultural environments and global investment decision making by the ‘typical’ foreign investor characterised in terms of US mutual funds. The degree of financial market development is highly dependent on investor protection where both of these elements are key determinants of the level of investment. Consequently, the determinants for the investment decision are identified, and, their relative importance in the global investment decision context is established.

This thesis begins with a concise descriptive background of the MENA region in this chapter. The purpose of which is to inform the reader about the unique research setting and includes a review of MENA regional economies, financial markets, corporate governance structures, legal systems and Islamic culture. This is followed by two self-contained essays examining and adapting the ‘Law and Finance’ theory from a unique and different perspective.

The first essay, contained in Chapter 2, considers how the legal environment protecting investors and the role of Islam as the prevailing culture impact upon the development of financial markets in the MENA region. The empirical tests examine the effect of creditor and shareholder protection rights, law enforcement, judicial efficiency, legal duality and Islamic culture on credit and stock market development in 21 MENA countries for the period 2007-2012. The analysis uses survey-based measure of the legal environment developed by the World Bank. Additionally, the thesis develops two indices and uses a new measure of Islamic culture to reflect the peculiarity of the region and the individualised nature of MENA countries. First, an anti-director rights index measuring the legal protection for minority shareholders is constructed by reference to the relevant legal provisions of each country’s laws and regulations. Second, the Sharia index, measuring the degree of legal duality is developed by reference to the constitutional provisions

that relate to the role of Sharia in the constitution. Finally, Islamic institutionalisation index adopted from Achilov (2010) that gauge the substantive role of Islam in the political, educational and financial domains in MENA countries.

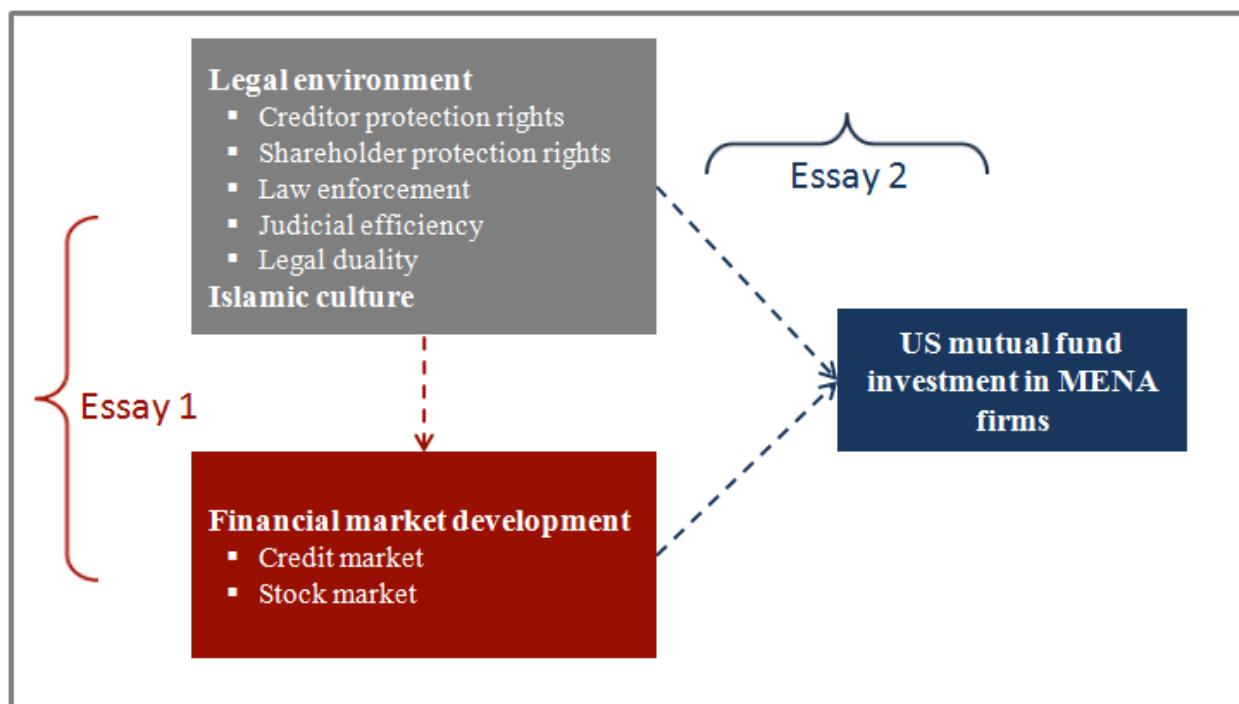
The results of the OLS and bootstrap regressions show that certain legal rules protecting investors matter for financial market development. The strength of legal rights in bankruptcy proceedings and the depth of credit information are positively associated with credit market development. Pre-emptive shareholder protection mechanisms related to disclosing of self-dealing transactions enhance stock market development. However, remedial shareholder protection mechanisms that facilitate legal avenues for aggrieved shareholders to sue and access to information for self-dealing transactions deter stock market development. The extent of law enforcement is a strong determinant of financial market development while judicial efficiency marginally benefits financial markets. In contrast, both legal duality and Islamic culture deter financial market development.

The second essay incorporated in Chapter 3 examines the determinants of US mutual funds in MENA firms. Country-level and firm-level determinants are considered. Country-level determinants include the quality of the legal environment protecting shareholders and the extent of stock market development. The empirical analysis rests upon the Morningstar[®] Principia[®] database covering 95% of US mutual funds. The sample covers 438 US mutual funds investing in 391 firms in 11 MENA countries over the period 2008-2012. The logistic and tobit regression results show that financial market development, disclosure of self-dealing and legal protection for minority shareholder are positively associated with US mutual fund investment in MENA. Two firm-level discretionary policies that reduce information asymmetries for foreign investors are analysed: the adoption of international financial reporting standards (IFRS) and the appointment of a big-four auditor. Both policies are associated with increased US mutual fund investment.

A visual map of the inter-relatedness of the two essays appears in Figure 1.1. The quality of the legal environment protecting investors and the Islamic culture influence the development of financial markets in MENA (Essay 1) and both affect investors' willingness to provide capital to firms (Essay 2). Consequently, the quality of the legal environment protecting investors and the degree of financial market development are key determinants of investment allocation and the tenet for country selection in an investment decision.

Chapter 4 provides final remarks about the thesis, connects the results of the two essays and highlights the contributions made to the finance literature by this thesis.

Figure 1.1 Thesis essays



Source: Thesis analysis.

1.1. MENA background

The MENA region includes Algeria, Bahrain, Egypt, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Sudan, Syria, Tunisia, Turkey, United Arab Emirates (UAE) and Yemen (see Figure 1.2).¹ This section provides a background on the different aspects of the region that reviews MENA country net savings, natural resources, economy, financial markets, corporate governance, legal systems and culture.

The MENA countries have not yet emerged as economic powers. In the last two decades MENA's role has grown in the global economy. The region's sovereign wealth funds (SWF) are substantial where SWF assets exceed both the banking sector assets and the stock market capitalisation in home economies (Kouamé, 2008, p. 840). The Gulf Cooperation Council (GCC)² has accumulated significant wealth as a result of increased oil prices during 2007-2010. As of March 2012 assets under management by SWFs around the world are estimated at more than USD4.9 trillion (around 8% of world's GDP), of which 35% belongs to the GCC (Sovereign Wealth Fund Institute, 2012).³

¹ There is no consensus of what constitutes the MENA among the international organisations.

² GCC countries are Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and UAE.

³ Abu Dhabi Investment Authority and Saudi Arabia holds the largest share and the fourth largest SWF in the world, respectively (Sovereign Wealth Fund Institute, 2012).

Figure 1.2 Map of the MENA region

Northern Africa and the Middle East



Source: (Howard, 2007). Map of the Middle East and North Africa. Retrieved from [http://mabryonline.org/blogs/howard/archives/n africa mid east pol 95.jpg](http://mabryonline.org/blogs/howard/archives/n%20africa%20mid%20east%20pol%2095.jpg)

The Global Financial Crisis (GFC) provided an opportunity for the SWFs to expand their investment reach locally and abroad. The SWFs emerged as important providers of project finance in MENA financial markets and also played a major role in stabilising the global economy by ‘bailing out’ internationally recognised financial institutions during the GFC. The GCC SWFs injected more than USD60 billion into Citigroup, UBS and Merrill Lynch, and from a geopolitical perspective, this resulted in an acute shift in investment power from the West to MENA (Sultan, Weir, and Karake-Shalhoub, 2011, p. 68).

The dominant natural resource in the MENA region is oil. MENA countries are responsible for the production of 35% of the world’s daily oil needs and account for 58% and 72% of World and the Organization of the Petroleum Exporting Countries (OPEC) oil reserves respectively (OPEC, 2015).⁴ Although the region was insulated from the effects of the GFC, the significant drop in oil price was the major driver for the GDP decline in 2009 for oil producing MENA countries.

The MENA region contributes around 5% to the world’s GDP (World Bank, 2014b). Each country in the region reveals a different stage of economic development. While few countries enjoy huge oil endowments and wealth, other countries struggle with poor economic performance, significant external debt and high unemployment levels of over 10% (International

⁴ Algeria; Iran; Iraq; Kuwait; Libya; Qatar; Saudi Arabia; and, UAE are members of the OPEC.

Labour Organisation, 2011). The World Bank classifies Bahrain, Israel, Kuwait Oman, Qatar, Saudi Arabia and UAE as ‘high-income’ countries; Algeria, Iran, Jordan, Lebanon, Libya, Tunisia, and Turkey as ‘upper-middle-income’ countries; and Egypt, Iraq, Morocco Palestine, Syria, and Yemen as ‘low-middle-income’ countries. According to the International Monetary Fund’s World Economic Outlook Database 2012, the three largest MENA economies measured by nominal gross domestic product (GDP) are Turkey (USD788 billion), Saudi Arabia (USD734 billion) and Iran (USD398 billion). When it comes to GDP at purchasing power parity (PPP) per capita, the three highest ranking countries are Qatar, UAE and Kuwait (International Monetary Fund, 2014). According to 2012 statistics, GDP based on PPP per capita in current USD is 104,755 for Qatar; 48,761 for Kuwait; and, 43,773 for UAE.⁵ Nonetheless, the growth of the MENA economies has been inhibited by political change, corruption, an over-dependence on oil revenues and various wars/conflicts.

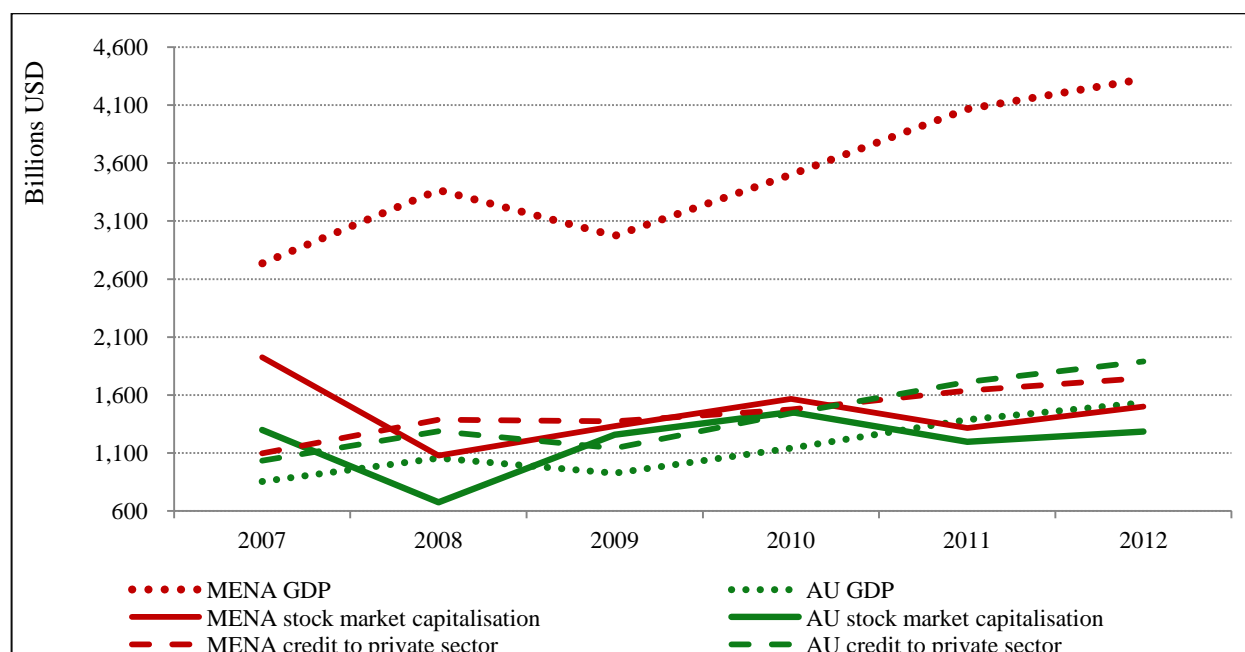
Bank financing is the dominant source of capital. MENA countries are largely bank-based economies (Omran and Bolbol, 2003, p. 238) and bond markets are either primitive or non-existent owing to the lack of a yield curve for government debt (OECD, 2012, p. 28).⁶ According to the World Bank 2011 report, MENA bank assets account for 130% of GDP (World Bank, 2011, p. 67). Nonetheless, only 20% of small and medium enterprises in the MENA have a loan or a line of credit (Madeddu, 2010, p. 2). This is evident in Figure 1.3 where the capital sources are still below the real economic activity. Many MENA banks are characterised by strong public and domestic ownership (Farazi, Feyen, and Rocha, 2011, p. 6). Governments, government investment vehicles and royal/ruling families play a significant role as investors in MENA financial firms (Abu Loghod, 2008, p. 3). The GCC countries operate a strong banking system. Despite exposure to the real estate and construction sectors during the GFC, GCC banks withstood the shocks and were resilient to the crisis. Non-GCC banking systems, however, were not as exposed to real estate sector shocks stemming from the GFC (International Monetary Fund, 2010, p. 22). Islamic banks and Islamic financial products, like Sukuk, exist in many of these markets, particularly in Bahrain and UAE.⁷ Most MENA banks offer Islamic and conventional banking to cater for the rising demand for Islamic services.

⁵ Qatar has the world's highest GDP (PPP) per capita, Kuwait ranks 11th and UAE ranks 17th compared to Australia which ranks 5th.

⁶ The governments of Qatar, Dubai and Kuwait issue debt. Outside the GCC, listed debt is negligible.

⁷ Sukuk are Islamic bonds.

Figure 1.3 MENA capital (2007-2012)



Source: Thesis analysis.

MENA stock markets lag behind the banking sector as a source of corporate finance. Regional stock markets are heterogeneous, varying considerably by age, market size, liquidity and efficiency. Some MENA stock markets are well established, such as Egypt's stock market (operating since 1883) while others are relatively new, such as UAE's stock market (operating since 2000). In 2012, the market capitalisation as a percentage of GDP was 87% for Jordan, 52% for Saudi Arabia and 2% for Iraq. Liquidity (measured by the trading value to GDP) ranges from 72% in Saudi Arabia to 1% in Lebanon. The number of listed firms also varies widely from 532 in Israel to 10 in Lebanon (World Bank, 2014b). Lagoarde-Segot and Lucey (2008) reveal heterogeneous levels of market efficiency in the MENA stock markets while Abraham, Seyyed, and Alsakran (2002) identify weak form efficiency in GCC markets. Egypt, Israel, Morocco, and Turkey are members of MSCI for emerging markets while Jordan, Bahrain, Kuwait, Lebanon, Oman, Qatar, Tunisia and UAE are members of MSCI for frontier markets. The most notable remark about the MENA stock markets is that they were insulated from the GFC. However, the Dubai debt crisis in December 2009 affected MENA regional markets. The growth of the MENA markets, particularly those in the GCC, has created an appealing place for fund raising (Sultan et al., 2011, p. 68) despite the inherent political and security instability. Noteworthy many MENA stock markets are incomplete since equity derivatives are not offered (Kern, 2012, p. 19).⁸

⁸ From an Islamic perspective, the legality of derivatives, particularly options, is not yet settled (Abumustafa and Al-Abduljader, 2011, pp. 119-120). Kuwait Stock Exchange was the first MENA market to offer forward and futures contracts since 1990s and options since 2005 (Abumustafa and Al-Abduljader, 2011, p. 118). Iran operates futures market since 2010. NASDAQ Dubai offers derivative platform for futures and options since 2008.

Corporate governance frameworks that strengthen investment opportunities are particularly important in MENA because the region does not have the long-established financial institutional infrastructure (Braendle, 2012). MENA stock markets are characterised by the dominance of domestic retail investors, low foreign investor participation and high ownership concentration. The dominance of retail investor participation is attributed to the slow development of insurance, pensions and mutual fund sectors in the region (African Development Bank, 2012, p. 10) as well as general barriers and restrictions to investment. Public pension funds operate in few MENA countries and they provide limited information about their portfolios, performance, and governance (World Bank, 2011, p. 69). Mako and Sourrouille (2010) attribute the underdevelopment of investment funds in the MENA to the lack of investible assets (especially government securities and private fixed income instruments), low ‘free float’ in equities markets and constraints on cross-border investments that limit diversification.⁹ The highest institutional investor participation in stock markets is reported in Kuwait, Egypt and Qatar, and is estimated to be approximately 30% (Gavin, 2011). This is below institutional investor participation in most OECD countries and even some emerging markets like China (OECD, 2012, p. 26).

The dominance of retail investor participation in MENA stock markets increases market volatility and weakens the quality of price discovery (OECD, 2012, p. 27). While MENA markets lack institutional investors, regional sovereign and quasi-sovereign type vehicles compensate for the lack of more traditional institutional investors especially in GCC markets. Markaz (2008, p. 10) estimates SWFs in the GCC hold stakes in over 130 listed firms representing 27% of GCC market capitalisation.

Until recently, foreign participation in MENA stock markets was limited. However, under pressure to attract capital and reduce volatility, regional markets have adopted a more gradual openness. Investment restrictions still pose significant barriers in some markets. For example, Tadawul (the Saudi stock market and the biggest in the region), has the highest investment restrictions where non-GCC nationals can currently invest through swaps or mutual funds only. In the UAE, foreign investment is restricted to 49% of total equity and in Qatar the restrictions is limited to 25%. This impediment has disqualified these markets to be considered by MCSI as ‘emerging markets’ (OECD, 2012). Girard, Omran, and Zaher (2003, p. 286) argue that risk perceptions and institutional under-development are obstacles to access MENA financial markets. However, several financial reforms have been initiated to counter these perceptions, boost confidence and attract foreign investments. Some MENA countries have adopted liberal approaches towards market-oriented economies, such as privatisation of government-owned firms

⁹ Free float is the market capitalisation excluding shares held by controlling shareholders. The rationale for exclusion is that these shares are not in circulation and unavailable to other investors.

and allowing competition for sectors controlled by government such as banking and telecommunication. Other MENA countries have changed their legislation to allow foreign ownership. Saudi Arabia has recently announced its intentions to allow foreign investors direct access to the stock market. Dubai has created a parallel legal system for Dubai International Financial Centre that is closely modelled on international standards and common law principles (Dubai International Financial Centre, 2012; Carballo, 2007, p. 99). Similarly, Qatar established the Qatar Financial Centre (QFC) in 2005 that settles disputes arising from financial activities (Al-Rimawi, 2012, p. 40).

Publicly traded firms in the MENA are often characterised by highly concentrated domestic share ownership due to the prevalence of family businesses, business groups and state ownership (OECD, 2005, p. 7; OECD, 2012, p. 3). Concentrated ownership and control have implications on boards of directors as frequently featured family members and close relatives are bestowed ultimate decision making authority. It is common for the controlling family to serve as Chief Executive Officer. Family and other controlling shareholders may also indirectly influence corporate decisions through 'blockholder' stakes in complex corporate structures involving holding companies and subsidiaries (OECD, 2005, p. 8). Correspondingly, concentrated ownership of listed MENA firms has a negative impact on liquidity, transparency and corporate governance practices. Large and politically powerful shareholders face incentives to avoid corporate governance mechanisms that weaken their control for example, advocating increased transparency.

The duality of the MENA legal systems is a unique aspect of this research setting. Due to historical events, the religion of Islam plays a major role in these countries. This religious infusion is evidenced by the inclusion of Islam as a main source of legislation in most MENA countries constitutions. MENA countries operate in dual religious-secular legal systems where the commercial laws of the MENA countries are largely affected by either Napoleonic civil law or British common law alongside the Islamic law. For example, Koraytem (2000, pp. 63, 69) notes that while the Saudi commercial law is inspired by Western laws, this does not mean that the Saudi commercial sector is exclusively ruled by Western principles. Koraytem (2000) highlights this 'pluralism' and advances the Saudi experience as a fine example of an incorporation of Western legal concepts into Sharia. The degree of secularity varies among MENA countries. While Turkey and Israel are wholly secular, Iran and Saudi Arabia are strictly religious, and the remaining countries lie in between these extremes.

The MENA region has a unique mix of homogenous cultural factors. Islam is the dominant religion in all countries except for Israel, and Arabic is the main spoken language except for Iran,

Israel and Turkey. Moreover, the region has shared values and common historical ties. Yet, apart from GCC and OPEC, no regional community or economic cooperation bind the MENA countries together. Another common feature of the MENA region is that all countries rank high in terms of public sector corruption (Transparency International, 2011), low in terms of political rights and civil liberty¹⁰ (Puddington, 2012, p. 32) and moderate in terms of economic freedom¹¹ (Heritage Foundation, 2012).

In conclusion, the uniqueness of the individualised country-based legal systems and infused Islamic cultural identities across the MENA region make it impossible to directly apply Western centric models of financial market development without taking into consideration the salient features of the MENA region. Such MENA specific modifications are implemented to adapt the seminal ‘Law and Finance’ framework advocated by LLSV in Chapter 2. Further, MENA region peculiarities constitute significant sources of potential investment risk that impact the decision making by US mutual funds when investing in the region. These potential barriers and information asymmetries are taken into account in Chapter 3 when identifying the determinants of investment by these foreign minority shareholders.

¹⁰ The rating of political rights is based on electoral process, political pluralism and participation of government. The rating of civil liberties is based on freedom of expression and belief, associational/organizational rights, rule of law, and personal autonomy/individual rights.

¹¹ The economic freedom index considers rule of law, limited government, regulatory efficiency and open markets.

CHAPTER 2

Legal environment, culture and financial market development: Evidence from the MENA

2.1. Introduction

Financial market development is fundamental to economic development. The importance of strong, deep and efficient long-term access to financing is a driver of local employment and economic growth (Beck and Levine, 2004; Beck, Levine, and Loayza, 2000; Levine, Loayza, and Beck, 2000). Various influential research papers consider factors leading to the financial market development. La Porta, Lopez-De-Silanes, Shleifer, and Vishny (LLSV) provide a series of papers discussing the relationship between legal tradition and financial market development via protection of investor rights.¹² LLSV develop the ‘Law and Finance’ theory proposing that the legal traditions transplanted by former colonisers underlie the differences in investor protection rights. Further, better investor protection laws affect investor willingness to provide capital to firms, which in turn, influences financial market development.

Since the publication of the LLSV research, there have been many controversial counterclaims challenging and reinterpreting LLSV’s ‘Law and Finance’ theory findings. LLSV classify the world’s legal traditions into either civil law or common law systems, which are both Western secular legal traditions. Such a classification, however, ignores how the secular and religiously inspired legal traditions have interacted within the same country. La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1997, p. 1118) argue that the religious traditions, such as Hindu law, Jewish law and Muslim law are less relevant in matters of investor protection. Their argument is based on the comparative law literature of Zweigert and Kotz (1987, p. 66) acknowledging that the Arabian countries belong to Islamic law; however, the commercial, contract and tort laws are heavily influenced by the legal thinking of the colonial and mandatory powers. This Western view is inaccurate; Islamic law (Sharia) is not entirely a religious law. It comprises two main divisions; rituals that deal with purely religious matters and transactions that deal with all those subjects which comprise the only content of other legal systems (Badr, 1978, p. 188). Siems (2007, p. 68) criticises LLSV, indicating that a meaningful description of legal families in Africa, for example, should reflect how the imposed new legal traditions interact with chthonic and Islamic legal traditions. This same logic applies equally to MENA. The MENA region presents a unique hybrid setting. It is a salient example of religious-secular mixed legal systems. The

¹² The term ‘investors’ refers to both creditors and shareholders. The term ‘financial markets’ refers to both credit and stock markets.

commercial laws of the MENA countries are based upon either Napoleonic civil law or British common law alongside the Islamic law. Islamic law represents the third major legal system of the world after common law and civil law (Esmaeili, 2011, p. 329; Badr, 1978, p. 188).¹³ The MENA region has been under religious Islamic influence for over 14 centuries. Further, due to historical events, religion plays a major role. It is not the case that in MENA countries a true and distinctive separation exists between the state (politics) and religion (church), as in the Western tradition. This is evident by the inclusion of Islam as the state religion and that Sharia is a/the main source of legislation in most Islamic MENA countries' constitutions. Hence, Sharia is still an important contemporary legal source underpinning MENA legal systems in that Sharia provides the general principles that apply when there are no provisions to the contrary. Al-Rimawi (2012, p. 113) refers to this as the 'gap-filling role' of Sharia.

Cultural isolation and differences also have been cited as possible explanations for the emergence of distinctive regional features that shape financial market development (Licht, Goldschmidt, and Schwartz, 2005, 2007; Stulz and Williamson, 2003). Culture moulds a society's system of beliefs, customs and attitudes toward its market institutions. MENA region has a unique mix of homogenous cultural factors. Islam is the dominant religion in all countries except for Israel, and Arabic is the main spoken language except for Iran, Israel and Turkey. Moreover, the region has shared values and common historical ties. The degree of Islamic influence however varies systematically among countries. The Islamic traditions integrate both religion and state so that the impact of Islam is pervasive in both religious practice and enshrined as a legislative source. These integrated elements mean that culture and law variables are observationally bundled.

Further, this essay widens the scope of the 'Law and Finance' theory by considering MENA, a geographic region that has not been extensively covered in prior research. Despite the seminal LLSV research being a diverse international comparative study of 49 countries, the MENA region is marginalised. In LLSV, four MENA countries are covered (Egypt, Israel, Jordan, and Turkey). These four countries are not entirely representative of the MENA region having older and more financially developed financial markets. Further, the legal systems considered by LLSV do not represent strictly religious systems in MENA, as both Israel and Turkey are wholly secular, while Egypt and Jordan operate under mixed legal traditions.

In view of the LLSV critique outlined above, a meaningful analysis of financial market development in the MENA needs to address the legal environment from a wider cultural context in which corporate law operates. This involves incorporating the peculiarities of MENA's

¹³ Badr (1978, p. 187) argues that Islamic law has not been getting its fair share of attention from comparative law literature in the West mainly due to language barriers.

Islamic culture and hybrid legal systems where local legal traditions interact with Western transplanted traditions.

2.1.1. Research questions

While the ‘Law and Finance’ theory purported by LLSV concentrates on Western secular legal traditions, this essay tests the prediction of the ‘Law and Finance’ theory in a unique setting where the local legal traditions interact with Western transplanted traditions. This research examines whether differences in investor protection rights among the MENA countries explain cross-country differences in financial market development. Further, the key contribution of this research lies in the ability to reflect the peculiarities of the MENA region. This requires resolving the key determinant in the legal origin debate in the MENA context by introducing an innovation to reflect the presence of Islamic cultural values and hybrid legal systems where Sharia law continues to be a source of law alongside the Western transplanted laws. This essay answers the following questions:

1. Does the legal origin, which purports to explain financial market development in civil and common law countries, apply to the MENA region?
2. Following from Western empirical financial markets, is the development in the MENA credit and stock markets positively associated with creditor and shareholder protection rights?
3. Does legal enforcement affect the extent to which financial markets develop?
4. Does judicial efficiency reinforce the extent to which financial markets develop?
5. Does the Islamic culture deter financial market development?
6. How does the gap-filling role of Sharia in MENA's legal systems affect financial market development?
7. Will the Islamic culture and the hybrid legal system in the MENA complement or eliminate the impact of legal origin on financial market development?

2.1.2. Contributions and objectives

Essay 1 considers the influential nature of the ‘Law and Finance’ theory as originally proposed by LLSV with regard to the subsequent critique in the context of the MENA region. It contributes to our understanding of the relative importance of both explicitly stated investor protection rights enshrined in regional legal frameworks and implied cultural values to financial market development. To achieve this end, the essay enhances LLSV approach by making the

following research method improvements. First, adopting a more comprehensive set of investor protection proxies coded specifically by direct reference to the legal provision issued in each MENA country. Second, cultural proxies are added measuring the role of Islam in politics, education and banking. Third, the impact of Sharia law on a MENA country's constitution is included by way of identifying reference in the constitution.

These contributions are achieved through the adoption of these research objectives:

- present a comprehensive literature review by identifying the commonalities, controversies and criticisms in the existing 'Law and Finance' literature and the cultural impact on financial market development.
- construct comparative description of shareholder protection for each MENA country. This involves extracting legal provisions from the national laws that are relevant for shareholder protection.
- compile a dataset of the cultural role of Islam. Measurement of the cultural role of Islam involves identifying the presence of political, financial and educational Islamic institutions in each MENA country.
- construct a dataset of the constitutional role of Sharia in the legal system in each MENA country. Measurement of the role of Sharia in the legal system involves reviewing constitutional provisions that refer to the role of Sharia in the legislation.
- empirically examine the relationship between the legal environment and financial market development in the MENA.
- empirically examine the impact of the Islamic culture and the presence of hybrid legal system on the development of financial markets.

2.1.3. Essay structure

The literature review of the legal environment and the cultural factors that influence financial market development is documented in Section 2.2. An overview of the conceptual framework and a review of the theoretical literature are then provided. The development of the 'Law and Finance' theory, the various measures of investor protection and the different alternative explanations for the prediction of the theory is reviewed. The various criticisms of the 'Law and Finance' theory and application are then explored. The literature of the significance of culture on the legal rules is presented.

The historical development of the MENA's legal systems is discussed in Section 2.3. The chronological development of the legal systems is portrayed starting from the Ottoman Empire era, the colonisation and the subsequent independence that shape the contemporary legal systems.

Section 2.4 illustrates the research design. The sample countries and period of analysis are identified. The development of three critical indices is explained. The development of the anti-director rights index for each MENA country is illustrated pointing to the specific national laws and legal provisions used to derive the index scores. The development of the Sharia index that proxies for the hybrid legal system is discussed with reference to the specific provisions in MENA countries constitutions. The measurement of Islamic culture and its dominant role in the MENA region is portrayed. The importance of considering the Islamic culture when investigating the development of MENA's financial markets is emphasised. The model specification is reviewed, followed by a description of the variables compiled in this essay and their measurement. Finally, a survey of panel data estimation techniques and the rationale for method selection are discussed.

The empirical results are presented in Section 2.5. Univariate, bivariate and multivariate analyses addressing the relationship between the legal environment, culture and financial market development are provided. Robust regression results using the bootstrap technique are subsequently discussed. Section 2.6 concludes by summarising the overall findings, discussing the implications, identifying the limitations of the study and outlining the scope for further research.

2.2. Literature review

The standard premise in corporate law is that the legal environment that provides protection for outside investors limits the extent of expropriation by corporate insiders. Investor protection is essential to assure the flow of capital to firms and to promote financial market development. The legal environment, however, relates systematically to the prevailing local culture. The present literature review focuses on these two factors, legal and cultural, to explain worldwide financial development patterns.

2.2.1. ‘Law and Finance’: commonalities, controversies and criticism

The theoretical framework for analysing the effects of the legal environment on financial markets traces back to the contractual view of the firm by Jensen and Meckling (1976). This view considers that the protection of investor property rights from expropriation by corporate insiders is essential in assuring the flow of capital to firms at lowest possible cost. There are rights attached to different types of securities. In the case of debt, creditors have the right to control assets when the firm fails to pay the interest and/or principal, whereas shareholders have the right to vote at general meetings and are residual claimants on cash flows.¹⁴ Due to the inherent conflict of interest between corporate insiders and investors, these rights are essential for investors to get the return on their investments and for firms to finance their operations. Consequently, the quality of legal rules determines the extent of investor protection, which in turn, affects investor’s willingness to invest and eventually influences financial market development.

The intrinsic rights attached to securities vary from one country to another based on the national legal rules governing these securities. One key research question in the literature involves the degree to which law promotes financial market development. LLSV explore this question in a series of research studies that articulate the relationship between ‘Law and Finance’. They develop the ‘Law and Finance’ theory which posits that legal traditions transplanted by former colonisers underlie differences in investor protection rights. Higher legal protection of creditors and minority shareholders’ rights are expected to positively influence investors to provide debt and equity capital to firms, which in turn, affect financial market development in countries around the world (Claessens and Laeven, 2003; La Porta et al., 1997; La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 1998).

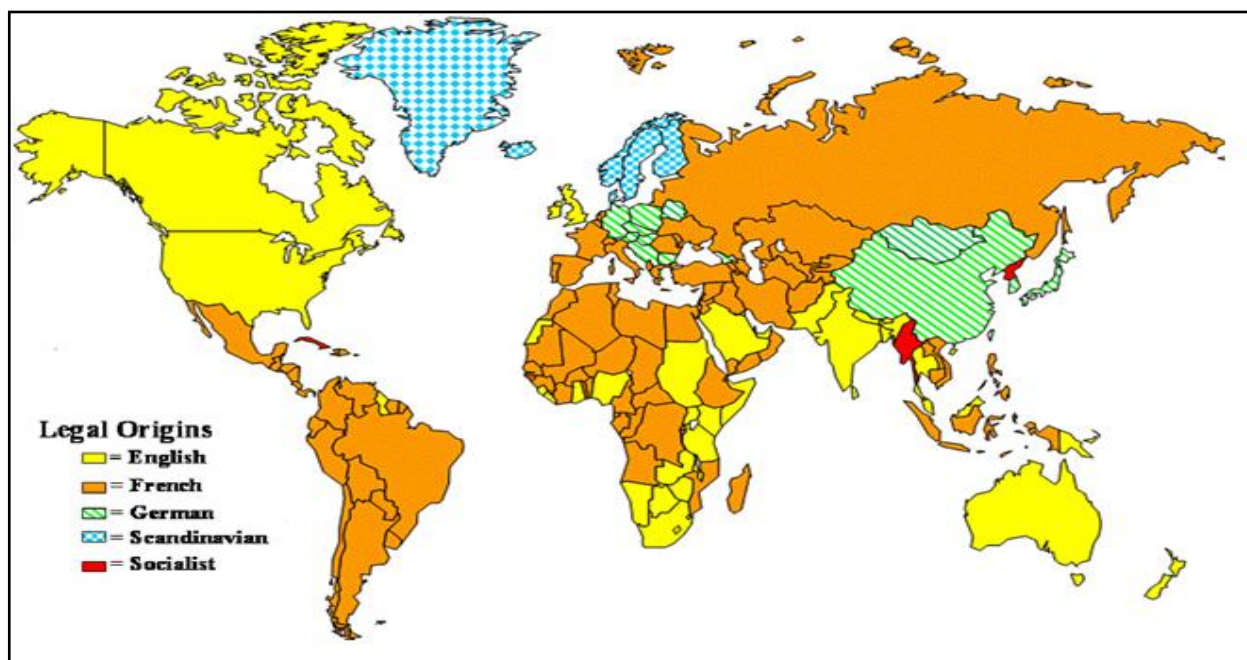
¹⁴ Gupta, Ogrimah, Prakash, and Rangan (2011, p. 9) call the rights conferred on creditors as remedial rights while the rights conferred on shareholders as both pre-emptive and remedial.

The ‘Law and Finance’ theory posits that legal rules differ in countries around the world; however, they are influenced by either English common law or French civil law. Political differences associated with the relative power of the monarch and property holders shape the creation of the two major legal traditions. The two legal systems operate in very different ways. Common law relies on judges, broader legal principles and oral arguments while civil law depends on legal codes and written records (Glaeser and Shleifer, 2002, p. 1193). Damaska (1986) in Xu (2011, p. 838) refers to common law as ‘dispute resolving’ and to civil law as ‘policy implementing’. English common law has evolved to protect private property owners against the crown. This facilitated the ability of private property owners to transact confidently with positive consequences on financial development. However, France and Germany did not have powerful Parliaments and hence state dominance produced legal traditions that focused more on the power of the state and less on the rights of individual investors (Glaeser and Shleifer, 2002, p. 1211).¹⁵ According to the ‘Law and Finance’ theory, these legal traditions spread throughout the world via conquest, colonisation and imitation (La Porta et al., 1998, p. 1115). As a result, the differences in the development of financial institutions around the world can be traced to the prevailing influences of different legal traditions. Figure 2.1 shows LLSV classification of the world based on the legal origin as defined by the comparative law literature of Zweigert and Kotz (1987).

La Porta et al. (1998) find that the law and its enforcement differ across 49 countries. Countries with English common law legal origin have higher levels of investor protection, higher levels of law enforcement and less ownership concentration than those of French civil law origin. Subsequently, La Porta et al. (1997) examine the financing sources as a function of the legal origin, the investor protection law and the extent of law enforcement. They hypothesise that countries with better investor protection laws have higher market values and more firms accessing the capital market. Results of the means tests and cross-country ordinary least squares (OLS) regressions show that the legal environment significantly affects the size and the breadth of financial markets. La Porta et al. (1997) conclude that common law countries operate more developed financial markets than civil law countries.

¹⁵ Ahmed (2006) argues that whilst common law is called the law of judges and civil law is the law of the legislators, Islamic law can be characterised as the law of scholars. Badr (1978, p. 189) suggest that similar to common law, Islamic law is not a written law. While the rule of precedent makes common law a judicial law, the provisions of Islamic law are to be sought first and foremost in the teachings of the authoritative jurists, hence it is Jurist's law.

Figure 2.1 Distribution of legal origin



Source: La Porta, Lopez-de-Silanes, and Shleifer (2013, p. 430).

The methodical contribution of LLSV arises in the development of indices to quantify the quality of investor protection rules in countries around the world. They construct indices for creditor and shareholder protection rights. The former measures creditor protection in bankruptcy scenarios, whilst the latter measures the degree of minority shareholders' protection offered by corporate and security laws against expropriation by managers or major shareholders. The indices are an aggregate of binary codes that rely on the inclusion or exclusion of certain relevant criterion (defined in Panels B and C in Appendix 3). With mounting critique on the anti-director rights index, Djankov, La Porta, Lopez-de-Silanes, and Shleifer (2008) revise the LLSV index by providing more precise definitions to the same dimensions of corporate law. In particular, the adjusted version of the anti-director rights index distinguishes between enabling provisions that are prevalent in common law and mandatory and default rules. Further, Djankov, La Porta, et al. (2008) construct a new index to measure the legal protection of minority shareholders against expropriation by corporate insiders. The anti-self dealing index is a survey-based measure that is better grounded in theory than LLSV index of anti-director rights (defined in Panel C of Appendix 3).

La Porta, Lopez-de-Silanes, and Shleifer (2006) analyse the securities law and examine the relationship between certain provisions in securities law and stock market development. The primary focus is on provisions in securities law that regulate the issuance of new equity to the public, in particular mandatory disclosure and liability law (defined in Panel C of Appendix 3). Prospectus disclosure relates to the requirement to disclose the insiders' compensation, ownership

by large shareholders, inside ownership, contracts outside the normal course of business and transactions with related parties. The prospectus liability disclosure relates to the procedural difficulty for investors to recover losses from the issuer, the distributor or the accountant in a civil liability case due to misleading statements in the prospectus. La Porta et al. (2006, p. 27) argue that securities law matters and financial markets do not prosper when left to market forces. Their results show that disclosure requirements and liability law are associated with larger stock markets. The superiority of common law once again is evident in the disclosure and liability standards. However, the anti-director rights index is not important in explaining cross-country differences in financial development once disclosure requirements and liability law are included.

An unexpected result of La Porta et al. (1997) is that the creditor rights index does predict credit market development differences (La Porta et al., 1997, p. 1145). Djankov, McLiesh, and Shleifer (2007, p. 300) examine two theories, the power of creditors and information theories, of the determinant of how much private credit a financial system would extend to firms and individuals. The power of creditors theory suggests that lenders are more willing to extend credit when it is easy to force repayment, grab collateral, or gain control of the firm. The information theory suggests that when lenders know more about borrowers, their credit history or their other lenders, they are not as concerned about the 'lemons' problem of financing non-viable projects and therefore extend more credit. Djankov et al. (2007) amass data on the public and private credit registries which collect credit histories and current indebtedness of borrowers and share this information with the lenders. Djankov et al. (2007) note that creditor power theory and information theory are not mutually exclusive. However, less developed countries with poorly functioning legal systems might be unable to sustain an effective lending channel based on creditor rights and could depend on information sharing for their credit markets to function. Whereas richer countries might develop more functional bankruptcy systems so that creditor power is important in these countries. The results show that creditor rights and the presence of credit registries explain differences in private credit ratios. Djankov et al. (2007) examine the relative importance of power and information theories for countries at different levels of development and find that creditor right scores and the incidence of private credit registries are higher in richer countries. Further, public credit registries are common in civil law countries. The dominance of common law is evident where the results show that common law countries enjoy higher levels of creditor rights than civil law countries.

Other studies provide empirical evidence supporting the 'Law and Finance' theory. Levine (1998) finds that both the creditor rights index and the legal origin of LLSV positively affect bank development. Levine, Loayza, and Beck (2000) find that financial intermediaries are more

developed in countries where the law gives a high priority to secured creditors in bankruptcy, enforces contracts effectively and promotes comprehensive and quality financial reporting. Demirgüç-Kunt and Maksimovic (2002) examine how the proportions of firms that rely on external finance differ among financial systems. They find that a firm's access to external finance is dependent on the development of both the banking system and the securities' markets; this in turn is a function of the legal environment development. Beck and Levine (2002) argue that bank-based systems or market-based systems do not matter for industry growth; however, the legal system efficiency and financial development affect positively the growth of industries that depend extensively on external financing.

Several theories have been proposed to explain how legal origin shapes finance; such as the political theory, the adaptability theory and endowment theory.¹⁶ The political theory states that legal origins vary in the priority they provide to investors against the state which in turn has implications for the development of property rights and financial markets. This theory proposes that once a group gains power, the group shapes policies and institutions to its own advantage. Thus, if the elite see themselves as being enriched by free competitive markets, they put pressure on the state to create laws and institutions to stimulate financial development. If the elite feel threatened by competitive financial markets, they exert pressure on the state to restrict private transactions and hence the operation of free markets. A centralised powerful closed political system is more responsive to serve the interests of the elite and hence restrict financial development more than a decentralised, open, and competitive political system. The political theory predicts that common law emphasises private property rights while civil law emphasises the rights of the state.

The adaptability theory suggests that legal systems that respond to emerging economic issues by reducing the gap quickly between contracting needs and the legal rules lead financial development more effectively than rigid legal systems. The comparative law literature suggests that common law is dynamic, because judges respond to the changing needs of society, while French civil law is static (Beck, Demirgüç-Kunt, and Levine, 2001, p. 3; 2005; Hayek, 1960; Mahoney, 2001).

Acemoglu, Johnson, and Robinson (2001) propose endowment theory as an alternative explanation to the 'Law and Finance' theory. Endowment theory posits that the difference in

¹⁶ 'State entiquity' has been recently proposed as another explanation for financial market development. Ang (2013, p. 4038) finds that the level of state experience since 1 AD is critical in explaining differences in financial development, where the early presence of state government predicts contemporary financial system features and institutional quality. Roe (2006) attributes involvement in world wars as an alternative explanation for the divergent depth of financial markets as European civil law countries suffered greater destruction of capital stock during World War II, which radicalised local politics and led to legal rules hostile to financial markets.

institutions among countries is due to differences in colonial strategies. The European colonisation strategies were driven by the feasibility of settlement. When the Europeans suffer from high mortality rates due to diseases, they adopt an ‘extractive’ strategy to take resources from these colonies, rather than settle down. This strategy promotes institutions that discourage long-term investment and economic development. Whereas in other colonies the Europeans were able to settle and establish institutions to enforce the rule of law and promote long-term investment. The impact of these policies persisted after independence (Acemoglu et al., 2001, p. 1359).¹⁷ Beck, Demirgüç-Kunt, and Levine (2003a) assess the explanatory power of the political and the adaptability theories and provide empirical evidence supporting the latter. Specifically, the legal system adaptability explains cross-country differences in financial intermediary, stock market development, and private property rights. Following the same rationale, the findings of Beck, Demirgüç-Kunt, and Levine (2005) show that adaptability of the legal system rather than the political independence of the judiciary is more important for explaining obstacles that firms face in accessing external finance. Beck, Demirgüç-Kunt, and Levine (2003b) compare the ‘Law and Finance’ and the endowment theories. They conduct cross-country regressions for 70 former colonies and find that while both theories play a role in explaining financial development, endowment theory explains more of the cross-country variation in financial intermediary and stock market development. Beck et al. (2001) assess the three established theories related to the determinants of financial development and provide strong support for the role of legal tradition, mild support for the endowment theory, and least support for the political theory.

While LLSV’s work has been empirically supported and widely cited, their approach has been criticised on various grounds including research method, variables selection and measurement of indices, contrary historical evidence, and legal origin classification.¹⁸

The LLSV studies use OLS regressions to estimate the relationship between law and financial development. Critics argue that reverse causality and bias in estimated parameters are unresolved. Reverse causality (endogeneity) arises because any correlation between investor protection law and financial development can be interpreted in two ways. LLSV assert the direction of the relationship is from law to financial development. However, other researchers argue in favour of the opposite direction from financial development to law. Coffee (2001, p. 64) argues that both the US and the UK had well developed stock markets prior to the existence of their comprehensive securities’ legislation. Similarly, Pistor (2009, p. 1661) suggests that better

¹⁷ Settler mortality rates are used as a proxy for the disease environment in colonies. Albouy (2012) detected a number of severe measurement issues in the variable settler mortality rates used in Acemoglu et al. (2001).

¹⁸ Despite the criticism, LLSV results have significant political implications as the World Bank adopted their approach in formulating policy prescription for financial development in emerging markets.

investor protection legislation is a response to market development and crises associated with it. Addressing this endogeneity problem is difficult however. Using the legal origin as an instrumental variable in a two stage least squares regression is inappropriate since legal origin affects finance in ways other than investor protection rules (Xu, 2011, p. 845). For example, government ownership of banks (La Porta, Lopez-de-Silanes, and Shleifer, 2002), burden of entry regulation, regulation of labour markets, government ownership of media and judicial independence all vary across legal traditions (La Porta et al., 2008, p. 286). In response La Porta et al. (2013, pp. 443-444) argue that even if instrumental variable techniques are inappropriate because legal origin influences finance through channels other than investor protection rules, this criticism does not reject the significance of the theory. Using a quasi-natural experiment approach Haselmann, Pistor, and Vig (2010) address the endogeneity between law and financial market development. Haselmann et al. (2010) examine the effect of legal change on the lending behaviour of banks in twelve economies and find that banks increase the supply of credit subsequent to legal change. Additionally, changes in collateral law matter more for increases in bank lending than do changes in bankruptcy law.

Bias in the estimated parameters arises when the estimation equation excludes variables that are correlated with explanatory variables. One possible excluded variable in the 'Law and Finance' theory is culture. Branson (2001, pp. 345-347) argues that the culture beneath the law and the institutions is more important than the law itself. Licht et al. (2005) emphasise the importance of culture on the law and argue that the law reflects cultural values. Another potential excluded explanatory variable proposed by Acemoglu et al. (2001) is the initial condition of the colony. A final potential excluded explanatory variable for divergent finance development is political institutions. Proponents of this argument reject the central role of legal tradition, stressing instead that political factors shape financial development. Pagano and Volpin (2005) reveal that electoral systems affect investor protection. Results of the determinants of shareholder protection show that when political variables and legal origins are jointly included, the coefficients on the legal origin dummies are statistically insignificant. La Porta et al. (2013, pp. 461-467) acknowledge that politics is important for legal rules; however, they reject the assertion that legal origin is a proxy for politics. They regress the legal and institutional rules on three variables considered by political theory of corporate finance and find that political variables only occasionally explain variation in legal rules. Legal origin, however, explains the variation in legal rules even with political variables in the regression and the difference between common law and civil law persists.

A final methodological flaw relates to the univariate analysis conducted in the LLSV studies. Graff (2008) argues that “the reported t-tests of the differences of the various shareholder protection dummy variables are flawed, because a t-test is not adequate for a comparison of binary variables” (Graff, 2008, p. 67). Graff (2008) suggests applying a parametric test based on a binomial distribution of the difference between the common law-civil law groups.

Further criticism relates to LLSV’s method of index construction. Legal scholars criticise the variable selection and the simplicity of judgement in LLSV’s approach to measure the corporate law. Cools (2005, p. 702) criticises the quantification of corporate law and wonders whether quantification of law is reasonable, particularly when scoring mechanisms are narrowly defined. Dam (2006) and Siems and Deakin (2010) argue that investor protection indices of LLSV may not accurately describe the law and call for a functional (how it applies in courts) rather than the terminological comparison. Further, the variables used to measure anti-director rights index are insufficient in the measurement of shareholder protection rights since they ignore important variables such as the structure of the board of directors (Cools, 2005, pp. 703-704). Graff (2008) questions the exclusion of relevant and valid measures of investor protection in the formation of the anti-director rights index, namely ‘one share–one vote’ and ‘mandatory dividend’ variables. Other studies object to the LLSV coding method and reassess the anti-director rights index scores for several countries. These studies argue that LLSV coding is incorrect, and in each study, the authors refer to the relevant legal provision supporting their argument (Braendle, 2006; Schmidbauer, 2006; Cools, 2005).¹⁹ Further, LLSV consider only the company law as a source of investor protection. However, there exist other important provisions for shareholder protection derived from other sources such as the corporate governance code and accounting standards (Schmidbauer, 2006, p. 15).

Siems and Deakin (2010) point out that LLSV’s variables are US centric and measure the extent to which other countries’ legal systems are proximate to the US. Hence, LLSV recipe may not necessarily work in other markets. Testy (1997, p. 507) argues that although several emerging countries model their corporate law closely to developed nations; corporate law in emerging markets may not work as well. Testy (1997) attributes this to the fact that corporate law in developed nations does not work alone, there are other institutions that constrain corporate conduct such as the presence of efficient markets, competent juridical systems and efficient securities regulation schemes. These institutional constraints are either missing or less well developed in emerging markets. Weingast (2009) attributes the resilience of developing

¹⁹ The adjusted scores in the subsequent studies are dramatically different than LLSV; for example, Germany and US in Braendle (2006), UK and Austria in Schmidbauer (2006), and France and Belgium in Cools (2005).

countries to the rule of law to the instability of state institutions. He argues that to sustain the rule of law over time, state institutions must survive beyond those who create them so the identities of political officials do not matter.

A central criticism to the 'Law and Finance' theory is the contrary historical evidence which La Porta et al. (2008, p. 315) recognise as the most difficult challenge to their theory. Rajan and Zingales (2003) argue that in 1913 French civil law countries outpaced common law countries in terms of financial development. However, this was reversed between 1913 and 1999. This 'great reversal' remains unexplained by LLSV's theory that predicts a constant influence of legal origin over financial development. La Porta et al. (2013, pp. 470-473) challenge Rajan and Zingales (2003) arguing the variation in results is due to the impact of outliers in stock market development. For example, Egypt is reported as the second most financially developed with French civil law despite being under British protection. Further, La Porta et al. (2013) note that the statistics used for market capitalisation to GDP included bond values. La Porta et al. (2013) adjust the numbers and present graphically the prevalence of common law financial development relative to the civil law since the start of the 20th century. They point out that it is the divergence over time rather than the reversal that requires explanation.

Additional contrary historical evidence is related to the establishment of well-developed stock markets at the beginning of the 20th century, long before the presence of legal codes protecting shareholders. La Porta, Lopez-de-Silanes, Shleifer, and Vishny (2000) infer the law provides investors with protection against expropriation from insiders in well-developed financial markets with dispersed ownership. This inference is unsupported by historical records; Coffee (2001, p. 25) shows that the early development of both New York Stock Exchange and London Stock Exchange witnessed dispersed ownership despite the fact that neither the US nor the UK had strong investor protection at the time. La Porta et al. (2013, p. 476) further acknowledge that shareholder rights improved parallel to the growth of Britain's markets, which presents a challenge to their theory.

Finally, LLSV have been criticised for the classification system used for legal origin. LLSV adopt the comparative law literature of Reynolds and Flores (1989) and Zweigert and Kotz (1987) that establish two main legal origins - English common law and Roman civil law. Siems (2007, p. 58) critiques the prevalent approach of the 'Law and Finance' research arguing that legal origin is less relevant as laws become more internationally standardised. La Porta et al. (2013, p. 432) argue that the international growth of legislation does not imply the irrelevance of legal origin. Norton and Sari-Eldin (1996, p. 340) note that there is a clear distinction between common law and civil law models in contract law and commercial law. However, when it comes

to insolvency, banking and securities laws, significant differences exist amongst common law and civil law traditions. Moreover, Siems (2007) argues that the binary classification of legal origin ignores important features of the legal structure. Siems calls for a tentative approach that considers a wider definition of the legal culture that goes beyond the content of statutory or case law. Furthermore, Siems (2007) notes that published 'Law and Finance' research focuses heavily on European or Western legal traditions proves problematic for regions like Africa with mixed legal traditions.

2.2.2. Culture

The 'Law and Finance' theory has been criticised for ignoring cultural differences. Culture is fundamentally related to economic outcomes (North, 2010). Licht et al. (2005, p. 232) find that corporate governance laws relate systematically to prevailing culture and conclude that analyses of corporate governance regimes should combine the legal with the cultural approach. Stulz and Williamson (2003) find that culture, measured by religion and language, better explains investor protection than legal origin.

Measuring culture in empirical studies is difficult as there is no consensus of what culture means. Culture is defined by Boyd and Richerson (1985) cited in Stulz and Williamson (2003, p. 314) as the "transmission from one generation to the next, via teaching and imitation, of knowledge, values, and other factors that influence behavior." As defined by Bourdieu (1972), cited in Licht et al. (2005, p. 233), culture refers to "the complex of meanings, symbols, and assumptions about what is good or bad, legitimate or illegitimate that underlie the prevailing practices and norms in a society." Culture, in this sense, coordinates people's epistemics and expectations. This justifies and guides how social institutions (the family, education, economic, political, religious systems) function (Licht et al., 2005, p. 233).

Religion as a common system of beliefs has frequently been used as a proxy for prevailing cultural values. Since Weber's (1905) work, religion has been recognised as a key determinant in the growth of capitalism (Stulz and Williamson, 2003, p. 317). At the micro level, religion has been empirically associated with economic attitudes and the activities of individuals, groups and institutions. Landes (1998) cited in La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1999, pp. 224, 233) identifies that Islam has been detrimental to institutional development. Ahmed (2006) attributes this to the fact that since the 13th century, the doors of the scholarly had been closed and this led to the stagnation of Islamic jurisprudence. Legal reasoning became mechanical and Islamic law became a rigid body of rules and principles. Islam prohibits interest which is the core business of bank operations. This relates to Stulz and Williamson (2003) notion that given the

hostility of religions towards interest on lending, religion may be a more fundamental determinant of legal rules governing creditor protection than legal tradition. Islam also prohibits gambling and speculation, both of which play an important role in stock markets and are often associated with high levels of trading volume, high return volatility and low average returns (Kumar, Page, and Spalt, 2011, p. 671).

Despite the fact that contemporary MENA commercial laws do not explicitly prohibit interest and speculation, the Islamic values influence financial behaviour. Recent research has linked individual religiosity to the level of participation in financial markets. Salaber (2013) investigates the impact of religious preferences on stock returns in Europe and finds that religion affects the performance of unethical firms or 'sin stocks'.²⁰ In particular, Protestant countries exhibit a strong sin aversion relative to Catholic countries and investors in Protestant countries require a higher premium on sin stocks. Hong and Kacperczyk (2009) provide evidence of significant effects of social norms on markets. Kumar et al. (2011, p. 706) hypothesise that religion influences investors' portfolio choices, corporate decisions and stock returns. They use religious background as a proxy for gambling propensity and find that in regions where the Catholic-to-Protestant ratio is high, institutional investors are more likely to hold lottery-type stocks, employee stock options are more popular, the initial day return following an initial public offering is higher and the magnitude of the negative lottery-stock premium is higher. This evidence implies that religion affects behaviour towards financial markets.²¹

Differences in culture should not be ignored when examining comparative investor protection across countries (Licht, 2001; Licht et al., 2005; Stulz and Williamson, 2003). Despite the global convergence in corporate governance practices, changes in statutory laws that strengthen investor rights do not guarantee improvement of corporate governance practices. The culture beneath the law is equally important as the quality of the legal rules. Branson (2001, pp. 345-346) provides an example where during the Asian financial crisis in 1998-99, 38 Indonesian banks collapsed because of mismanagement. Despite the fact that Indonesian company law provides shareholders a mechanism for derivative actions against management, no suits were initiated. Branson (2001) argues that if the same mismanagement occurred in the US, shareholders would initiate litigation. Branson attributes the difference in attitude toward litigation to the prevailing culture in each country. In Indonesia, the widespread perception is that it is futile to challenge those in power.

²⁰ Sin stocks refer to the stock of alcohol, tobacco, and gambling firms.

²¹ Ahern, Daminelli, and Fracassi (2015) find evidence that cultural differences have substantial impacts on cross-border mergers. They report that cross-border mergers are more likely when countries are larger and closer geographically, and share a common legal origin, religion and language.

The literature addressing culture in the context of financial market development and legal rules is limited. Licht (2001) views national cultures as the mother of path dependence and addresses the need to build a cross-cultural theory of corporate governance systems. The study uses the cultural values framework developed by Schwartz and Hofstede to argue that national cultures play a role in both the origin and future development of corporate governance systems (Licht, 2001, p. 203). The argument is based on the premise that the system of beliefs and values that determine the behaviour and actions of individuals within a society explains the differences in investor protection. Licht (2001) argues that culture influences law-making in two ways: cultural values may motivate lawmakers and interest groups to prefer certain legal arrangements to others or culture may constrain reforms that are not compatible with prevailing value priorities.

Stulz and Williamson (2003) examine whether differences in culture explain differences in investor protection around the world. They argue that culture affects finance through three channels: values; institutions; and resource allocation. All of these channels are shaped by the dominant national culture. They use two proxies for culture: religion as a key component of the system of beliefs; and, language as the vehicle to communicate beliefs. Stulz and Williamson (2003) use dummy variables to represent religion and language. They consider four religions (Buddhism, Catholicism, Islam, and Protestantism) and two languages (English and Spanish). The results show no differences in anti-director rights index in countries with different religions. However, Catholic countries have lower creditor rights index than Buddhist, Muslim and Protestant countries. Further, English speaking countries show the highest anti-director rights index. Yet, countries with English as the primary language have creditor rights that only differ significantly from countries with Spanish as the primary language. Judicial efficiency and rule of law is higher in countries where English is the primary language. The Protestant countries have a significantly higher corruption index than all non-Protestant countries.

Beugelsdijk and Maseland (2011, p. 272) argue that Stulz and Williamson (2003) findings are mixed where legal origin is found to be more important than religion for shareholder rights yet religion is found more important than legal origin when explaining creditor rights. Beugelsdijk and Maseland (2011, p. 272) object to Stulz and Williamson (2003) conclusion that that Protestant countries have better enforcement of rights than do Catholic countries. They note that this conclusion is not robust for inclusion of language. Additionally, the interpretation of Stulz and Williamson (2003) results for culture, which are based on dummies for religion and language, is criticised. Licht et al. (2005) agree that religion is a convenient proxy for culture; however, classifying countries by religion fails to capture the richness of cultural differences. Licht et al. (2005) argue that the use of religion as a dummy miss both the complexity of religious

variation around the world and the large differences in religious commitment within countries. Beugelsdijk and Maseland (2011, p. 272) argue that using fixed-effects approach may lead to substantial validity problems given that religion is highly correlated with legal origin. The notion that French legal origin is associated with Catholicism and British common law is associated with Protestantism makes the interpretation of the statistical results when using both variables simultaneously complex.

Licht et al. (2005) oppose LLSV's grouping of countries according to legal families, arguing that legal origin is only a partial depiction of the universe of corporate governance regimes. The law, they argue, reflects cultural values. Licht et al. (2005) analyse the relations between investor protection indices of LLSV and national cultural profiles across countries using Schwartz and Hofstede measures of sociological cultural value. The results show a high correlation between country's aversion to litigation and the harmony and uncertainty avoidance, implying that active regulation by government is required in countries where litigation for investor protection cannot be relied upon. Further, cultural emphases on embeddedness and hierarchy, common in many developing and transition economies, may be conducive to corruption. This finding implies that countries that develop social norms that do not rely on litigation, such as Asian societies, have other mechanisms of governance than the mechanisms known in the West (Licht et al., 2005, p. 252).

La Porta et al. (2013, pp. 460-463) accept the importance of culture and its persistent influence on legal families, yet challenge the assertion that legal origin is merely a proxy for culture. La Porta et al. (2013, p. 457) state

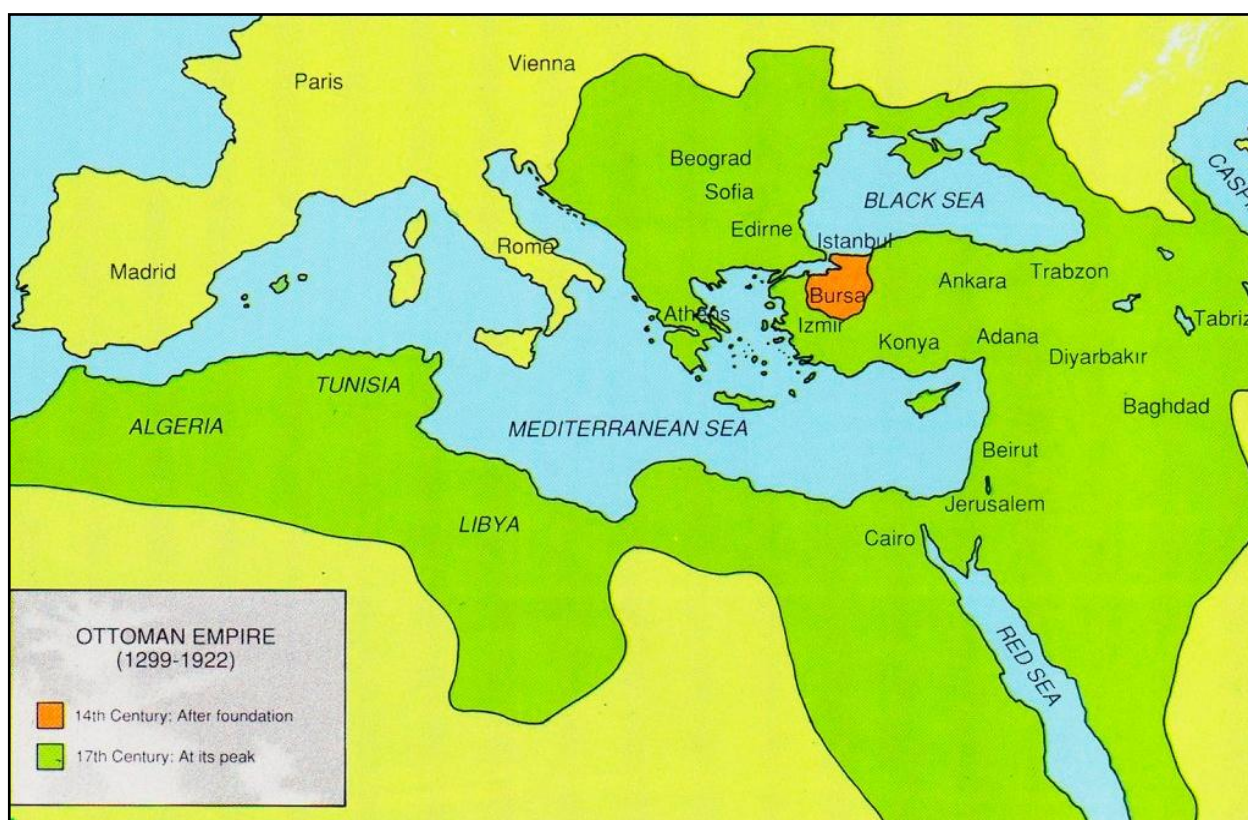
“To the extent that ideologies or cultures refer to the beliefs about how the law should deal with social problems, the Legal Origin Theory clearly accepts the view that ideologies and cultures are crucial for the persistent influence of legal families. But the central point is that the reason for persistence is that the beliefs and ideologies become incorporated in legal rules, institutions, and education, and as such are transmitted from one generation to the next. It is this incorporation of beliefs and ideologies into the legal and political infrastructure that enables legal origins to have such persistent consequences for rules, regulations, and economic outcomes”.

La Porta et al. (2013, p. 461) regress a creditor protection rights index on religion and cultural variables on a larger sample of countries. The results show that religion is not as important for creditor rights as is legal origin and indices of cultural attitudes are not shown to influence creditor rights once legal origin is held constant. LLSV conclude that cultural variables are not important explanatory variables of legal origin.

2.3. Development of MENA legal systems

The identity of the former coloniser is a major element in the ‘Law and Finance’ theory. The theory predicts that the legal rules transplanted by the former coloniser play a major role in financial development. MENA countries share a similar history prior to colonisation as they were under the Islamic Ottoman Empire for over 600 years (Figure 2.2) where Al-Majalla, an Islamic coded legal system (Colón, 2011, p. 431) related mainly to commercial transactions (Ahmed, 2006, p. 85) was the law of the Ottoman Empire (Kilborn, 2011, p. 340).

Figure 2.2 Map of Ottoman Empire (1299-1922)



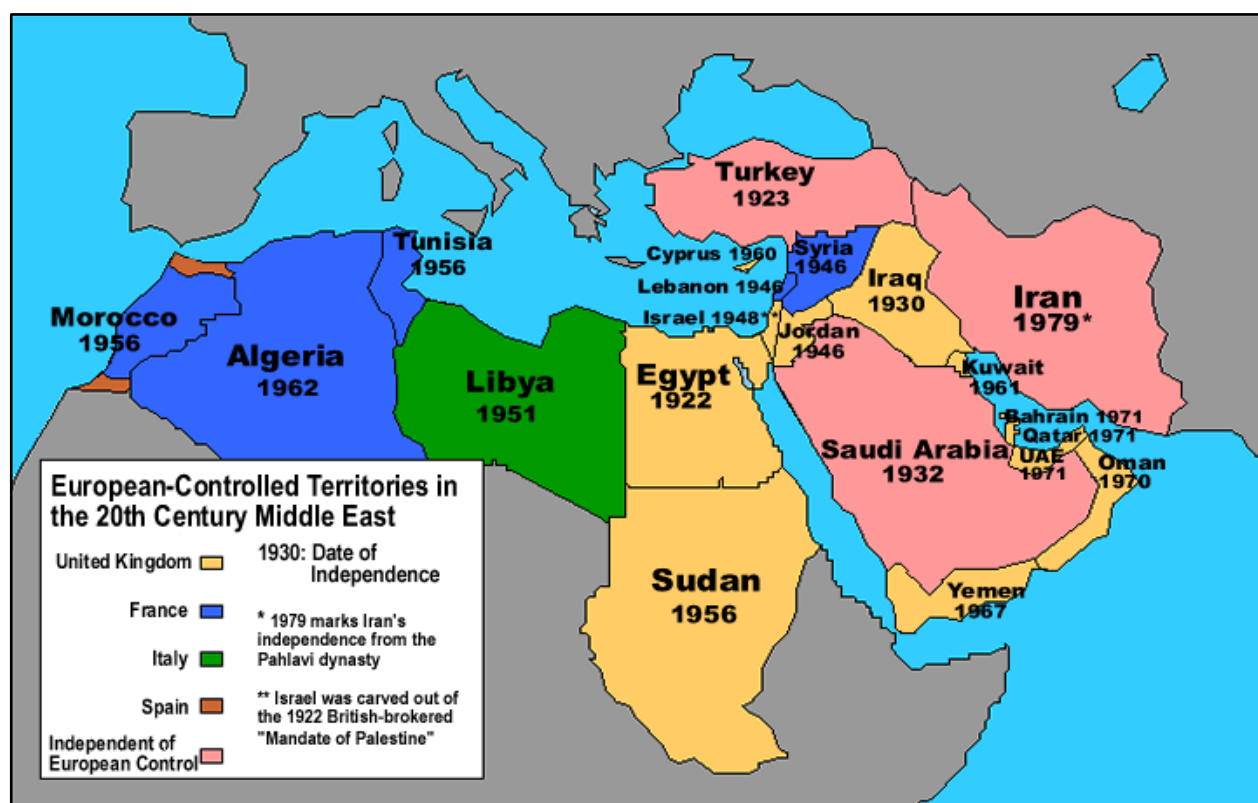
Source: http://www.tunliweb.no/SM/alb_istanbul.htm, retrieved on 23 August 2015.

In the seventeenth century, Europeans increased their military, commercial and political influence over the MENA. Eventually in the nineteenth century, the Ottomans lost their competitiveness, borrowed extensively from Europe, defaulted, and were forced to introduce reforms to modernise the empire. Reforms involved the incorporation of French and British legal rules into the Empire’s Islamic legal system (Stewart, 2009, p. 86; Goldschmidt and Davidson, 2012, p. 144) and financial Westernisation that involved the emergence of banks,²² the legalisation of interest and the establishment of secular courts (Kuran, 2005, p. 608; Shaaban, 1999, p. 158).

²² Banks were mostly European owned and operated such as Bank of Egypt (Baha-Eldin, 1996, p. 313), the Ottoman Bank, the Anglo-Egyptian Bank, and the London and Baghdad Association (Kuran, 2005, p. 608).

The defeat of the Germans in WWI ended the Ottoman Empire; however, Al-Majalla continued to be applied across most of the MENA region (Majid and Majid, 2003). As the Europeans, mainly French and British, colonised MENA (Figure 2.3), Western influences on the legal system emerged and the role of Al-Majalla declined. Shortly after WWII, each MENA country gained its independence (Table 2.1) and adopted a unique legal system.²³ Upon independence, a common trend particularly among religious groups was to regain the cultural identity by incorporating Islamic principles directly into the legal systems (Ahmed, 2006, p. 85).

Figure 2.3 Western controlled territories in the 20th century



Source: <http://ocw.nd.edu/arabic-and-middle-east-studies/islamic-societies-of-the-middle-east-and-north-africa-religion-history-and-culture/lectures/lecture-4> retrieved on 23 June 2013.

Al-Sanhuri, a prominent Egyptian legal scholar, revised the legal codes of Egypt and later Iraq in the 1930s. The codes at that time were distinctively different, while Al-Majalla was the basic civil law in Iraq, Egypt adopted French law for over fifty years (Baha-Eldin, 1996, pp. 313, 329; Hill, 1988, p. 35). Al-Sanhuri later used these two models to pattern the codes of other Arab countries, such as Syria, Libya and Kuwait (Hill, 1988, p. 39). The rest of the MENA countries, such as Jordan, Bahrain, Qatar and the UAE modelled their legal codes on Egypt and Iraq.

²³ Al-Suwaidi (1993, p. 289) cites that the British political influence on the GCC that started in the 18th century continues to affect the legal system in the region today. The British jurisdiction was introduced parallel to the local jurisdiction and it did not replace it. Under British influence, much of the legislation adopted by local authorities was borrowed from the common law codes. Commercial regulations were based on English legal principles.

Table 2.1 Former coloniser and year of independence for MENA countries

MENA country	Former coloniser	Year of independence/creation
Algeria	France	1962
Bahrain	Britain	1971
Egypt	Britain ²⁴ (France)	1922/1952 (1801)
Iran	Never colonised	1979
Iraq	Britain ²⁵	1930/1958
Israel	Not applicable	Created by the British in 1948
Jordan	Britain	1946
Kuwait	Britain	1961
Lebanon	France	1946
Libya	Italy	1951
Morocco	France (Spain)	1956(1912)
Oman	Never colonised ²⁶	1970
Palestine	Britain ²⁷	Occupied by Israel
Qatar	Britain	1971
Saudi Arabia	Never colonised	1932
Sudan	Britain	1956
Syria	France	1946
Tunisia	France	1956
Turkey	Never colonised	Created after defeat in 1923
UAE	Britain	1971
Yemen	Britain	1967

Source: The World Factbook (2012). From <https://www.cia.gov/library/publications/the-world-factbook/index.html>

As an advocate for modern Islamic law, Al-Sanhuri argues that all of the codes in the Arab world were revised to contain Islamic law; however, the extent of incorporation was contingent on a country's existing laws, indigenous customs, commercial practices and its legal history (Hill, 1988, p. 39; Stovall, 2000, p. 840).²⁸ As a result, modern legal rules in the region have been inspired by both European as well as Islamic traditions.

²⁴ Egypt was conquered by Napoleon Bonaparte during 1798-1801. Despite the short duration, the French have a far reaching impact on the Egyptian society and laws (Baha-Eldin, 1996, p. 312). Egypt gained independence from Britain in 1922. Britain however continued to control the country until 1952 when Egypt acquired full sovereignty with the overthrow of the British-backed monarchy.

²⁵ Iraq gained independence from Britain in 1932, however, the government maintained close economic and military ties with Britain until 1958 where the monarchy was overthrown.

²⁶ In the 18th century, a newly established sultanate in Muscat signed friendship treaties with Britain. Oman's dependence on British political and military advisors increased, but it never became a British colony. Britain recognised the Sultanate of Muscat and Oman as a fully independent state in 1951.

²⁷ The British withdrew from Palestine in 1948. Israel was created on some parts of Palestine.

²⁸ Al-Sanhuri is a well-known Egyptian legal scholar of modern jurisprudence. He contributed significantly in the writing of the civil law of Egypt of 1948. His philosophy was that the law must consider both the present and the historical experience of each country and that the law should be derived from the people's historical development socially, economically and legally. His major aim was to revive the Islamic legal heritage in the revision and hence to make Egypt's civil law more Islamic (Hill, 1988, p. 34).

Israel and Turkey represent exceptions to the rest of the MENA countries. Israel's legal system is heavily influenced by the British rules. Upon independence the modern Turkish Republic, despite being the centre of the Ottoman Empire, adopted a secular legal system (Bali, 2011, pp. 269-270, 275-276). Zweigert and Kotz (1987, p. 178) report:

“[i]n order to effect a radical modernization of Turkish life, the legislator, at a stroke, abolished the Islamic legal practices which had been valid for centuries, having hardly been affected at all by the reform legislation of the last Sultans of the Ottoman Empire; in their place was introduced a code which was adapted to the needs of a society entirely different in its social, religious and economic structure”.

What is evident from the historical narrative is that the contemporary legal system of MENA countries involved reconciliation between Islamic law and Western legal traditions based on their ex-colonial power's legal system (Lombardi and Feener, 2012, p. 2; Majid and Majid, 2003, p. 179).

2.4. Research design

This section identifies the sample, illustrates the construction of three indices, presents the model specification, discusses the variables and their definitions and reviews the estimation method used in this essay.

2.4.1. Sample

The sample consists of an unbalanced panel of annual data for 21 MENA countries over the period 2007-2012.²⁹ The countries covered are Algeria, Bahrain, Egypt, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Syria, Sudan, Tunisia, Turkey, UAE and Yemen.

Due to the limited scope, and sometimes absence of bond markets in the MENA, credit market development analyses only the banking sector where data is available. Credit market data is available for all countries across all the years, except for Syria for the years 2011 and, 2012 and Libya for the years 2010 to 2012.

The following stock markets are considered; Bourse d'Alger, Bahrain Bourse, Egyptian Exchange, Iraqi Stock Exchange, Tehran Stock Exchange, Tel Aviv Stock Exchange, Amman Stock Exchange, Kuwait Stock Exchange, Beirut Stock Exchange, Casablanca Stock Exchange, Muscat Securities Market, Palestine Exchange, Qatar Exchange, Saudi Financial Market (Tadawul), Khartoum Stock Exchange, Bourse de Tunis, Istanbul Stock Exchange, Abu Dhabi Securities Exchange and Dubai Financial Market.³⁰ The stock market data is available for 18 countries for the years 2007-2012. Libya, Syria and Yemen are excluded from the stock market development analysis since these countries do not have operating stock markets.

2.4.2. Index construction

This section presents the development of three constructs (the anti-director rights index, legal duality and Islamic culture) that form the basis of the empirical testing of the impact of the legal environment and culture on financial market development in the MENA region.

2.4.2.1. Anti-director rights index

This research constructs an anti-director rights index for each MENA country following the definitions of La Porta et al. (1997) and the adjustments of Djankov, La Porta, et al. (2008)

²⁹ The analysis period is determined by data availability. The World Bank reports investor protection indices for the MENA countries since 2006 and financial market data until 2012. The dependent variables are for years (2007-2012) and the independent variables are lagged one year.

³⁰ NASDAQ Dubai will not be taken into account since the equities listed are limited and recent.

thereafter. There are no comparative shareholder protection scores exist for the entire set of MENA countries because the ‘Law and Finance’ cover only four MENA countries. The LLSV indices are based on an ad hoc collection of variables that capture particular areas of the law expected to mitigate agency problems. The approach used by LLSV establishes binary scores for the existence or the absence of a particular legal rule and then combines the scores to form a continuous variable. The anti-director rights index is the summation of six equally weighted variables derived from the corporate and commercial laws that grant protection for minority shareholders against expropriation by insiders (managers and controlling shareholders). First, the ability to vote by mail which reflects the ease with which shareholders can cast votes. Second, obstacles to the actual exercise of the right to vote; some countries require shares to be deposited before the shareholders’ meeting. This practice prevents shareholders from selling their shares for several days around the time of the meeting. Third, the extent to which minority shareholders are able to obtain representation on the board of directors measured through cumulative voting or proportional representation. Fourth, an oppressed minority mechanism that remedies in case of expropriation. Fifth, the existence of pre-emptive rights to subscribe to new share issues protecting against ownership dilution. Sixth, the right to call a special shareholder meeting which measures the percentage of capital required to call an extraordinary shareholders’ meeting. A country has a score of one if its legal rules protect the minority shareholders according to the variable criterion or a score of zero otherwise for each measure. The aggregated scores form the anti-director rights index ranging from zero to six.

Table 2.2 presents the scores for each MENA country for the anti-director rights index and its sub-components as derived from the national laws. The countries in Table 2.2 are sorted in ascending order based on the anti-director rights index score. The table is colour coded for visual analysis where light blue reflects lower level of investor protection, and as the colour intensifies, investor protection increases. The borderlines are subjectively determined.

Corporate Law, Securities Law, Capital Market Law, Corporate Governance Codes and other relevant executive orders and rules are considered when coding the investor protection for MENA countries. The construction of the index involves translation of the legal provisions from Arabic, French, Hebrew, Persian or Turkish into English. Any legal reform that took place during the period of the study is included. Table 2.3 lists the relevant laws and regulations used to derive to the scores for the index. The comparative text for the legal provisions in English and the legal sources for each component of the anti-director rights index are presented for each country in Appendix 1. Due to the length of the legal provisions for each country, the scores are presented in the body of the thesis and the details are contained in Appendix 1.

Table 2.2 Anti-director rights index for MENA countries

Country	Vote by mail†	Shares not deposited††	Cumulative voting§	Oppressed minority§§	Pre-emptive rights‡	Capital to call a meeting‡‡	Anti-director rights index‡
Algeria	1.0	0.0	0.0	0.5	0.0	0.0	1.5
Jordan	1.0	0.0	0.0	0.5	0.0	0.0	1.5
Palestine	1.0	0.0	0.0	0.5	0.0	0.0 (West Bank) 1.0 (Gaza)	1.5 (West Bank) 2.5 (Gaza)
Iran	1.0	0.0	1.0	0.5	0.0	0.0	2.5
Israel	1.0	0.0	0.0	0.5	0.0	1.0	2.5
Lebanon	1.0	0.0	0.0	0.5	1.0	0.0	2.5
Morocco	1.0	0.0	0.0	0.5	0.0	1.0	2.5
Sudan	1.0	0.0	0.0	0.5	0.0	1.0	2.5
Tunisia	1.0	0.0	0.0	0.5	0.0	1.0	2.5
UAE	1.0	0.0	0.0	0.5	1.0	0.0	2.5
Egypt	1.0	0.0	0.0	1.0	0.0	1.0	3.0
Iraq	1.0	0.0	0.0	0.5	1.0	1.0	3.5
Saudi Arabia	1.0	1.0	0.0	1.0	0.0	1.0	4.0
Bahrain	1.0	0.0	0.0	1.0	1.0	1.0	4.0
Kuwait	1.0	0.0	0.0 (pre 2012) 1.0 (post 2012)	1.0	0.0	1.0	3.0 (pre 2012) 4.0 (post 2012)
Oman	1.0	0.0	1.0	1.0	1.0	0.0	4.0
Turkey	1.0	0.0 (pre 2011) 1.0 (post 2011)	0.0	1.0	0.0	1.0	3.0 (pre 2011) 4.0 (post 2011)
Qatar	1.0	1.0	0.0	0.5	1.0	1.0	4.5

Source: Thesis analysis.

† **Vote by mail:** Equals 1 if the law explicitly mandates that: a) proxy solicitations paid by the firm include a proxy form allowing shareholders to vote on the items on the agenda; or b) a proxy form to vote on the items on the agenda accompanies the notice to the meeting; or c) shareholders vote by mail on the items on the agenda (i.e., postal ballot); and equals 0 otherwise.

†† **Shares not deposited:** Equals 1 if the company law or commercial code disallows firms to require that shareholders deposit their shares prior to a general shareholders meeting, thus preventing them from selling those shares for a number of days, and equals 0 otherwise.

§ **Cumulative voting:** Equals 1 if the law explicitly mandates that shareholders owning 10% or less of the capital can cast all their votes for one board of directors or supervisory board candidate (cumulative voting) or if the law explicitly mandates a mechanism of proportional representation in the board of directors or supervisory board by which shareholders owning 10% or less of the capital stock can name a proportional number of directors to the board; and equals 0 otherwise.

§§ **Oppressed minority:** Equals 1 if minority shareholders can challenge a resolution of both the shareholders and the board if it is unfair, prejudicial, oppressive, or abusive; equals 0.5 if shareholders are able to challenge either a resolution of the shareholders or the board if it is unfair, prejudicial, or oppressive; and equals 0 otherwise.

‡ **Pre-emptive rights:** Equals 1 when the company law or commercial code grants shareholders the first opportunity to buy new issues of stock, and this right can be waived only by a shareholders' vote; and equals 0 otherwise.

‡‡ **Capital to call a meeting:** The minimum percentage of share capital or voting power that the law mandates or sets as a default rule as entitling a single shareholder to call a shareholders' meeting (directly or through the court). Equals 1 when capital to call a meeting is less than or equal to 10%; and equals 0 otherwise.

‡ **Anti-director rights index:** Aggregate index of shareholder rights. It is formed by summing: a) vote by mail; b) shares not deposited; c) cumulative voting; d) oppressed minority; e) pre-emptive rights; and, f) capital to call a meeting.

Table 2.3 Laws and regulations relevant for shareholder protection

Country	Laws / Regulations / Corporate Governance Code	Language
Algeria ³¹	<ul style="list-style-type: none"> ▪ Code of Commerce, Ordinance No. (75-59) of 1975. 	Arabic and French
Bahrain	<ul style="list-style-type: none"> ▪ Commercial Companies Law, Decree No. (21) of 2001. ▪ Executive Regulation of Commercial Companies Law No. (21) of 2001, Ministerial Order No. (6) of 2002. ▪ Amendments to Commercial Companies Law No. (21) of 2001, Law No. (50) of 2014. ▪ Corporate Governance Code (2011). [Comply or explain] 	Arabic and English
Egypt	<ul style="list-style-type: none"> ▪ Companies Law, No. (159) of 1981. ▪ Executive Regulation of Companies Law No.159 of 1981, Decree No. (96) of 1982. ▪ Capital Market Law, No. (95) of 1992. ▪ Executive Regulation for the Capital Market Law No. (95) of 1992, Decree No. (135) of 1993. ▪ Code of Corporate Governance (2005). [Voluntary] ▪ Code of Corporate Governance (2011). [Comply or explain] 	Arabic and English
Iran	<ul style="list-style-type: none"> ▪ Commercial Code: Treatise 1, Joint stock companies: Ratified by both houses of parliament on 15th March 1969. 	English and Persian
Iraq ³²	<ul style="list-style-type: none"> ▪ Companies Law, No. (21) of 1997. 	Arabic
Israel	<ul style="list-style-type: none"> ▪ Companies Law, No. (5759) of 1999. ▪ Securities Law, No. (5728) of 1968. 	English and Hebrew
Jordan	<ul style="list-style-type: none"> ▪ Companies Law, No. (22) of 1997. ▪ Corporate Governance Code for Shareholding Companies Listed on the Amman Stock Exchange, 2008. [Comply or explain] ▪ Corporate Governance Code (Private shareholding companies, limited liability companies, Non-listed public shareholding companies) 2012. [Comply or explain] 	Arabic and English
Kuwait ³³	<ul style="list-style-type: none"> ▪ Commercial Companies Law, No. (15) of 1960. ▪ Companies Law, No. (25) of 2012. 	Arabic and English
Lebanon	<ul style="list-style-type: none"> ▪ On the Land Commerce, Decision No. (304) of 1942. ▪ Code of Corporate Governance (2006). [Voluntary] ▪ Corporate Governance Guidelines for Listed Companies (2010). [Voluntary] 	Arabic and English
Morocco	<ul style="list-style-type: none"> ▪ Companies Law, No. (17) of 1995. ▪ Code of Good Corporate Governance Practices (2008). [Comply or explain] 	Arabic and French
Oman	<ul style="list-style-type: none"> ▪ Commercial Companies Law, No. (4) of 1974. ▪ Capital Market Law, Royal Decree No. (80) of 1998. ▪ Rules and Conditions for the Election of Directors of Public Joint Stock Companies and their Responsibilities, Ministerial Order No. (137) of 2002. 	Arabic and English

³¹ Corporate governance code is voluntary and directed towards small and medium-sized family business.

³² No corporate governance code.

³³ No corporate governance code.

Country	Laws / Regulations / Corporate Governance Code	Language
Palestine	<ul style="list-style-type: none"> Companies Law, 1929. [Applicable in Gaza] Jordanian Company Law, No. (12) of 1964. [Applicable in West Bank] Corporate Governance (2009). [Compulsory if the principle is consistent with the current legislation, comply or explain if the principle does not contradict with current legislation, and if it contradicts with current legislation then it is not applied until such amendments are done.] 	Arabic
Qatar	<ul style="list-style-type: none"> Commercial Companies, Act No. (5) of 2002. Corporate Governance Code, 2009. [Comply or explain] 	Arabic and English
Saudi Arabia	<ul style="list-style-type: none"> Companies Regulations, Royal Decree No. (M/6) of 1385 Hijri. Corporate Governance Regulations in the Kingdom of Saudi Arabia, Resolution No. (1/212/2006) dated 21/10/1427AH. [Comply or explain except for Article 9 (since 2008), paragraph (b) of Article 10 (since 2012), paragraphs (c) and (e) of Article 12 and Article 14 (since 2009) and Article 15 (since 2011) are all mandatory] 	Arabic
Sudan	<ul style="list-style-type: none"> Companies Act of 1925. 	Arabic
Tunisia	<ul style="list-style-type: none"> Companies Law, No. (93) of 2000. Code of Best Practice of Corporate Governance (2008). [Voluntary] 	Arabic and French
Turkey	<ul style="list-style-type: none"> Commercial Law, No. (6102) of 2011. Capital Market Law, No. (2499) of 2007. Communiqué on Corporate Governance, No. (28871) of 2014. [Comply or explain] 	Turkish and English
UAE	<ul style="list-style-type: none"> Commercial Companies Law, No. (8) of 1984. Corporate Governance Code for joint-stock companies and institutional discipline criteria, Decision No. (32\R) of 2007. [Mandatory] Governance Rules and Corporate Discipline Standards, Ministerial Resolution No. (518) of 2009. [Mandatory for publicly traded companies after 30 April 2010] 	Arabic and English

Source: Thesis analysis.

2.4.2.2. Sharia constitutional role

One of the distinctive features of MENA is that unlike Western countries the separation between state (politics) and religion (church) does not entirely apply. Platteau (2008) attributes the lack of separation between the religious and the political spheres in the Muslim world to Prophet Muhammed being a political leader in his city causing a complete merging of religion and politics. Lewis (1990) in Stewart (2009, p. 9) argues that the West secularisation reduces the power of religious institutions, creates higher tolerance, and enhances the economic and scientific achievements.

By comparison, Islam has experienced no such separation. The MENA region has been under religious Islamic influence for over 14 centuries. Further, due to historical events, religion plays a major role in these countries. This is evident by the specific reference to Islam as a state religion and a source of legislation in most Islamic MENA constitutions. Yet the extent to which Islamic law applies in the MENA countries varies based on the constitution and the civil code of the country (Stovall, 2000, p. 840). Some countries specify the role of Islam as the state religion where as others, like Jordan and Kuwait, hold Islamic Jurisprudence to be their first source of law in the absence of legislation (Al-Rimawi, 2012, p. 113).

The critical question is to what extent, if at all, Sharia affects commercial transactions and financial markets in the 21st century? Al-Suwaidi (1993, p. 290) notes that the extent to which the Sharia influences the legislation, particularly commercial and bankruptcy laws, is ambiguous.³⁴ Al-Rimawi (2012, p. 118) criticises the MENA judicial authorities for never addressing the complex role of Sharia in a structured and comprehensive manner. Ballantyne (1985, p. 3) and Majid and Majid (2003, p. 180) argue that there is no criterion as to when and where Islamic law applies. While Sharia has no impact in a problem falling within the Commercial Code of Turkey, it may apply directly as a common law of the country, or indirectly through the application of statute law that is based fully or partially on Islamic Law. Alternatively, Sharia may apply as a source of law to fill legislative gaps when a certain provision is missing in the statute. Mohammed (1988, p. 116) argues that the role of Islamic law in temporal transactions is less pervasive yet still vital. Stovall (2000, p. 840) notes that the irrelevance of Islamic law in the MENA is a myth. Stovall further adds that Islamic law allows all business transactions except

³⁴ For example, interest is prohibited under the Islamic law, yet all banks other than Islamic banks operating in the MENA are dealing with interest similar to Western banking practices.

transactions involving *riba* and *gharar*.³⁵ The application of Sharia law has implications as the presence of Islamic precepts of *riba* or *gharar* render the contractual obligations null and void. However, the modern securities laws in MENA do not follow the Sharia precepts of *riba* and *gharar*. In particular; the modern laws do not prohibit speculative behaviour in stock markets on the grounds of *gharar*; nor do they prohibit trading in firms that are considered unacceptable under the Sharia such as those dealing with alcohol or tobacco. Similarly, securities laws in MENA countries do not prohibit trading in firms that issue bonds or dealing with interest. Despite the separation between Sharia and financial markets, Al-Rimawi (2012, p. 133) argues that Sharia has socio-legal influence and the imposition of Sharia as a constitutional source represents unquantifiable juridical risk in the MENA. Both of the Sharia concepts of *riba* and *gharar* result in rescinding offending contemporary MENA commercial legislation in the sense that they potentially may annul the modern commercial legislation. Consequently, Sharia should not be ignored when examining the MENA commercial legislation. Similarly, Ballantyne (1985, p. 3) notes that there is always uncertainty in the commercial contracts in the MENA region because of the looming presence of the Sharia.³⁶

The above discussion suggests the presence of hybrid legal systems. Despite the fact that the written commercial and company laws in the MENA region are Western influenced, Sharia is still an important legal auxiliary source to contemporary MENA legal systems. Sharia within the MENA legal framework acts as both a constitutional source as well as being a legal source for commercial legislation in a majority of Arab countries. It includes the general principles that apply in circumstances where there are no provisions to the contrary; Al-Rimawi (2012, p. 113) calls it a ‘gap-filling role’ of Sharia. The critical issue is the ability to reflect the impact of Sharia on the legal system.

One way to analyse the extent to which Sharia applies to the laws of MENA is to classify countries according to the Sharia’s role in the constitution. Reviewing the text of the MENA countries’ constitution suggests five models to Sharia being a constitutional source. The first group includes Israel, Lebanon and Turkey which are wholly secular. The second group includes Algeria, Jordan, Libya, Morocco and Tunisia limits Sharia’s role to be the religion of the State without referring to it as a source of law. The third group includes Bahrain, Iraq, Kuwait,

³⁵ *Riba* refers to the charging of interest. Sharia prohibits levying interest on loans. However, many new Islamists jurists distinguish between interest and usury. They argue that financial gain must be earned against taking risk. Their interpretation follows that interest presents a reward for taking risk, and Islam prohibits usury only. This view does not gain much support however (Hamoudi, 2011, p. 508). *Gharar* means deception, cheating, or risk. It is a vague term that arises in the context of Islamic contractual obligations.

³⁶ Gemmell (2006, p. 170) argues that history and religion are the keys to understanding commercial arbitration in the MENA and calls for foreign investors to consider the religious underpinnings supporting commercial arbitration in this region in investment decisions.

Palestine, Syria, Qatar and UAE recognises Sharia as a principal source of legislation. The fourth group includes Egypt, Oman, Sudan and Yemen recognises Sharia as the principal source of legislation. The fifth group includes Iran and Saudi Arabia recognises Sharia as the constitution. The groups are ranked from the lowest to highest influence of Sharia.

Table 2.4 summarises the constitutional provisions and the Sharia score for each country. The countries are presented in ascending order and colour-coded where the shades provide visual measure of the constitutional role of Sharia. Light blue indicates no constitutional role and as the blue intensifies the constitutional role of Sharia increases. The Sharia index is used as a variable reflecting the hybrid legal systems. Sharia variable equals zero when Sharia plays no constitutional role (wholly secular constitution); one when the role of Sharia is limited to the identity of the state; two when Sharia is a main source of legislation; three when Sharia is the main source of legislation; and four when Sharia is the constitution of the country.³⁷ Appendix 2 discusses the constitutional provisions that refer to the role of Sharia in finer detail.³⁸

³⁷ The use of 'the' or 'a' gives different meanings in Arabic language. The use of 'the' dictates the priority of Sharia above all other sources. The use of 'a' indicates equal importance; that is one of the many sources.

³⁸ Sharia is written differently in the constitutions. The constitutional provisions are preserved as provided by the English version of the constitution and hence Sharia, Shari'a, Shari'ah, and Shariah refer to Islamic law.

Table 2.4 Constitutional role of Sharia

Country	Role of Sharia as stated in the constitution	Score [0-5]	Reference
Israel	Knesset (the Israeli house of representatives) states: "Israel does not have a written constitution, even though according to the Proclamation of Independence a constituent assembly should have prepared a constitution by October 1, 1948. The delay in the preparation of a constitution resulted primarily from problems that emerged against the background of the alleged clash between a secular constitution and the Halacha (the Jewish religious law)".	0	State of Israel, (2005)
Lebanon	No reference to Islam or Sharia in the constitution.	0	Constitution of Lebanon (1926)
Turkey	Article 2 "[t]he Republic of Turkey is a democratic, secular and social State governed by the rule of law".	0	Constitution of the Republic of Turkey (1982)
Algeria	Article 2 "Islam is the religion of the State". Article 9 "[t]he institutions are not allowed ... practices that are contrary to the Islamic ethics and to the values of the November Revolution". Article 178 "[a]ny constitutional revision cannot infringe on...Islam as the religion of the State".	1	Constitution of the People's Democratic Republic of Algeria (1989)
Jordan	Article 2 "Islam is the religion of the State".	1	Constitution of the Hashemite Kingdom of Jordan (1952)
Libya	Article 2 "Islam is the religion of the State". Article 8 "[p]ublic ownership is the basis of the development of society, of its growth and of self-sufficiency in production. Private ownership, if it is non-exploitative, is protected.* Expropriation will take place only in accordance with the law. Inheritance is a right which will be governed by the Islamic Shari'a." Article 1 "Islam is the Religion of the State and the principal source of legislation is Islamic Jurisprudence (Sharia)".	1 for 2007-2010 3 for 2011-2012	Constitution Proclamation [Libya] (1969) Draft Constitutional Charter for the Transitional Stage (2011)
Morocco	Article 6 "Islam shall be the state religion." Article 106 "[n]either the State system of monarchy nor the prescriptions related to the religion of Islam may be subject to a constitutional revision".	1	Constitution of the Kingdom of Morocco (1996)
Tunisia	Article 1 "Tunisia is a free, independent and sovereign state. Its religion is Islam, its language is Arabic and its type of government is the Republic."	1	Constitution of Tunisia (1959)
Bahrain	Article 1 "[t]he Kingdom of Bahrain is a fully sovereign, independent Islamic Arab state." Article 2 "[t]he religion of the State is Islam. The Islamic Shari'a is a principal source for legislation."	2	Constitution of the Kingdom of Bahrain (2002)

Country	Role of Sharia as stated in the constitution	Score [0-5]	Reference
Iraq	Article 2 “Islam is the official religion of the State and is a foundation source of legislation: A. No law may be enacted that contradicts the established provisions of Islam”. Article 92 “[t]he Federal Supreme Court shall be made up of a number of judges, experts in Islamic jurisprudence.”	2	Constitution of the Republic of Iraq (2005)
Kuwait	Article 2 “[t]he religion of the State is Islam, and the Islamic Sharia shall be a main source of legislation”.	2	Constitution of Kuwait (1962)
Palestine	Article 4 “Islam is the official religion in Palestine. Respect for the sanctity of all other divine religions shall be maintained” and “[t]he principles of Islamic Sharia shall be a principal source of legislation”.	2	Basic Law of Palestine (2003)
Syria	Article 3 “(1) The religion of the President of the Republic has to be Islam. (2) Islamic jurisprudence is a main source of legislation.”	2	Constitution of the Syrian Arab Republic (1973)
Qatar	Article 1 “Qatar is an independent sovereign Arab State. Its religion is Islam and Shari’a law shall be a main source of its legislations.”	2	Constitution of Qatar (2004)
UAE	Article 7 “Islam is the official religion of the Union. The Islamic Shari’ah shall be a main source of legislation in the Union.”	2	Constitution of the United Arab Emirates (1971)
Egypt	Article 2 “Islam is the Religion of the State. Arabic is its official language, and the principal source of legislation is Islamic Jurisprudence (Sharia)”.	3	Constitution of the Arab Republic of Egypt (1971) ³⁹
Oman	Article 2 “[t]he religion of the State is Islam and the Islamic Shariah is the basis of legislation”.	3	Basic Law of the Sultanate of Oman (1996)
Sudan	Constitution pre 2005: Article 1 “... Islam is the religion of the majority of the population and Christianity and traditional religions have a large following”. Article 65 “[s]ource of Legislation: The Islamic Sharia and the national consent through voting, the Constitution and custom are the source of law and no law shall be enacted contrary to these sources, or without taking into account the nation’s public opinion, the efforts of the nation’s scientists, intellectuals and leaders”. Article 139 “[a]mendment of the Constitution: An amendment as stipulated in paragraph 2 will not enter into force if it amends the procedural rules or is contrary to the basic principles set out below unless it has been approved by a majority of the people of Sudan in a referendum held in accordance with the procedures stipulated by the Electoral Commission and the amendment is signed by the President of the Republic after it has been approved by the referendum. The principles are: A: Sharia, then consensus of the people expressed through a referendum, the Constitution and custom are the sources of law”.	3	Constitution of the Democratic Republic of the Sudan (1988)
Sudan	“[s]ources of Legislation ... Article 5 (1) “[n]ationally enacted legislation having effect only in respect of the Northern states of the Sudan shall have as its sources of		Interim National Constitution of the Republic of

³⁹ The same provision remains in the post-revolution constitution of Egypt in 2014.

Country	Role of Sharia as stated in the constitution	Score [0-5]	Reference
	legislation Islamic Sharia and the consensus of the people”. Article 201(2) “[a] dual banking system shall be established, and shall consist of an Islamic banking system that shall operate in Northern Sudan and a conventional banking system to operate in southern Sudan.”		the Sudan (2005)
Yemen	Article 2 “Islam is the religion of the state”. Article 3 “Islamic Shari’ah is the source of all legislation.” Article 7 “a. Islamic social justice in economic relations which aims at developing and promoting production, achieving social integration and equilibrium, providing equal opportunities and promoting higher living standards in society”.	3	Constitution of the Yemen Republic (2001)
Iran	Article 1 “[t]he form of government of Iran is that of an Islamic Republic, endorsed by the people of Iran on the basis of their longstanding belief in the sovereignty of truth and Koranic justice ... ”. Article 2 “[t]he Islamic Republic is a system based on belief in: 1) the One God (as stated in the phrase "There is no god except Allah"), His exclusive sovereignty and right to legislate, and the necessity of submission to His commands; 2) Divine revelation and its fundamental role in setting forth the laws; ... 4) the justice of God in creation and legislation”. Article 4 “[a]ll civil, penal financial, economic, administrative, cultural, military, political, and other laws and regulations must be based on Islamic criteria. This principle applies absolutely and generally to all articles of the Constitution as well as to all other laws and regulations, and the wise persons of the Guardian Council are judges in this matter.”	4	Constitution of the Islamic Republic of Iran (1979)
Saudi Arabia	Article 1 “[t]he Kingdom of Saudi Arabia is a sovereign Arab Islamic State. Its religion is Islam. Its constitution is Almighty God’s Book, The Holy Qur’an, and the Sunna (Traditions) of the Prophet (PBUH).” Article 46 “[t]he judicial authority is an independent power. In discharging their duties, the judges bow to no authority other than that of Islamic Shari’ah.” Article 48 “[t]he Courts shall apply rules of the Islamic Sharia in cases that are brought before them, according to the Holy Qur’an and the Sunna, and according to laws which are decreed by the ruler in agreement with the Holy Qur’an and the Sunna.”	4	Basic Law of Saudi Arabia (1993) (1412 H)

Source: Thesis analysis.

2.4.2.3. Islamic culture

All MENA countries share common historical ties, except for Israel. Their population is predominantly Muslim with a mainly Christian minority. However, the Islamic culture varies from one country to another due to a wide range of overlapping factors such as political system, historical background and geopolitical variation. For example, the degree of adherence to Islam in social life varies among countries; ranging from very strict adherence in Saudi Arabia and Iran to the least adherence in Lebanon. While Dubai is more tolerant to alcohol and women can be unveiled, Saudi Arabia is far more conservative; it prohibits alcohol consumption and requires women to be veiled. However, both countries prohibit eating in public during the fasting month of Ramadan.

The common approaches used in the literature to operationalise culture are inadequate to measure the degree of Islamic culture in practice. Religion as a common system of beliefs has been used as a proxy for culture. Research operationalises culture via the dominant religion in three different ways. First, as a continuous variable based on the percentage of population (See Acemoglu et al., 2001; Acemoglu, Johnson, and Robinson, 2002; Kumar et al., 2011; La Porta, Lopez-de-Silanes, Shleifer, et al., 1999). Second, as a dummy variable based on the demographic profile of the country (Stulz and Williamson, 2003). Third, as a categorical variable based on subjective assessment (McAndrew and Voas, 2011). However, these approaches are inadequate to measure the degree to which Islam is applied in practice. Achilov (2010) criticises how Islamic culture is measured and argues that these measurement methods are misleading, inaccurate, and inefficient to gauge the substantive role of Islam. The first approach, the percentage of Muslim population as a continuous variable, is not useful as a measure for the cultural role of Islam. To illustrate this point, in the case of Turkey with 99% Muslim population, the variable approaches a maximum of 0.99 even though it is a wholly secular country and Islam has no role in commercial or legislative matters. The second approach that dichotomises Islam with dummy variables improperly categorise all MENA countries except Israel as Islamic, despite variation in the extent of Islamic culture within MENA. For instance, even though the population of Saudi Arabia and Turkey are 99% Muslim, both countries would be classified in the same group. Yet Islamic influence in Turkey is unquestionably different from that of Saudi Arabia. Licht et al. (2005) argue against using dummy variables as a proxy for religion since it fails to capture the complexity of religious variation around the world and fails to detect the large differences in religious commitment within countries. Consequently, variations in cultural differences are left undefined. The third approach measures religiosity via surveys. Measuring Islam attitudinally based on individual perception might provide insight however, Achilov (2010,

p. 20) argues that individual responses depend on the personal religiosity levels and present normative views, thus providing limited substantive manifestation of the role of Islam within a society.

Culture is continuous and multidimensional and proper measurement of different religiosity levels between the MENA countries is missing in the literature. In his thesis, Achilov (2010, pp. 55-69) proposes an Islamic institutionalisation index (III) that is designed to quantitatively measure the substantive role of Islam thus captures the variation of Islamic factors across Muslim countries. The index ranges from 0-12 where low score indicates low level of Islamic institutions and high score indicates highly functional Islamic institutions. III is composed of three sub-indices: Islamic political institutions (IPI); Islamic financial institutions (IFI); and, Islamic educational institutions (IEI) each component ranges from 0-4.⁴⁰

The IPI measures the level of active Islamic political parties, their experience in government, and the level of political restrictions in the system. Islamic political parties' ideology holds that Islam should guide social, economic, political and personal life. Islamic parties actively participate in the government and politics in some countries like Turkey and Iran. However, they are either suppressed or legally banned to function in other countries like Saudi Arabia and Syria. The IEI captures the level of Islamic education in tertiary educational systems. Islamic education is an accredited Islamic university, entity, department or a structured program in Islamic studies, Sharia science and Islamic principles. The IFI measures the level of Islamic financing services. The presence of Islamic finance and Islamic financial products is another financial manifestation of the Islamic culture in the MENA. Islamic banks offer interest-free banking and profit sharing schemes that are compatible with Islamic values. It is common that conventional commercial banks offer an Islamic banking window to cater for the specialised demand.

The III and its sub-indices are used in this essay as a proxy for the cultural role of Islam in the MENA countries. The scores for each MENA country are presented in Table 2.5. The countries are listed in an ascending order with respect to III. The shades provide visual measure of III intensity and the borderlines are subjectively determined. Light blue represents countries with the lowest level of Islamic culture, blue represents countries with medium levels of Islamic culture and dark blue represents countries with high level of Islamic culture.

⁴⁰ The raw data for Islamic institutionalisation index were generously provided by Dilshod Achilov.

Table 2.5 Islamic institutionalisation index

	Country	IPI†	IFI§	IEI‡	III¤
Low	Tunisia	1.00	2.00	0.67	3.67
	Libya	2.00	0.00	1.60	3.60
	Oman	0.00	2.00	0.57	2.57
	Syria	1.00	0.00	0.67	1.67
	Israel	0.0	0.0	0.0	0.0
Medium	Palestine	1.00	4.00	1.37	6.37
	Algeria	3.00	2.00	1.29	6.29
	Lebanon	3.00	2.00	0.83	5.83
	Saudi Arabia	0.00	3.00	2.59	5.59
	Egypt	1.00	4.00	0.56	5.56
	UAE	0.00	4.00	1.20	5.20
	Qatar	0.00	4.00	1.00	5.00
	Jordan	2.00	2.00	0.80	4.80
	Bahrain	1.00	3.00	0.00	4.00
	Iran	3.00	3.00	3.64	9.64
High	Turkey	3.00	4.00	1.65	8.65
	Sudan	2.00	4.00	2.50	8.50
	Iraq	3.00	3.00	1.57	7.57
	Morocco	3.00	3.00	1.56	7.56
	Yemen	2.00	4.00	1.33	7.33
	Kuwait	2.00	3.00	2.00	7.00

Source: Achilov (2010)

† **Islamic political institutions index (IPI)** is derived from the following indicators that are added together to reflect a final measure for the IPI: 1) number of Islamic parties: 0 (none), 1 (low), 2 (medium), 3 (high); 2) times elected to form a government: 0 (none), 2 (once), 3 (multiple); 3) levels of restrictions in political system: 4 (none), 2 (medium), 0 (high). The categorical classification of IPI based on raw scores is as follows: extremely low (0-3), emerging (4-6), some functional (7-10), functional (11-13), highly functional (14-16). A score of 16 is then transformed into a 0-4 scale to count towards the III. The categorical levels of IPI: 0 (extremely low); 1 (emerging); 2 (some functional); 3 (functional); and, 4 (highly functional).

§ **Islamic financial institutions index (IFI)** is a quantitative measure of 0-10 obtained by the total assets and deposits available in Islamic banks divided by the country's work-force population.). The categorical classification based on raw scores of IFI are as follows: extremely low (0-1), emerging (2-3), some functional (4-5), functional (6-8), highly functional (9-10). A score of 10 is then transformed into a 0-4 scale to count toward III. The categorical levels of IFI: 0 (extremely low); 1 (emerging); 2 (some functional); 3 (functional); and, 4 (highly functional).

‡ **Islamic educational institutions index (IEI)** capture the level of Islamic education in tertiary educational system. The opportunity level in tertiary education is measured by the number of higher educational institutions, which offer degrees or structured programs in Islamic studies divided by the total number of eligible institutions, which do not currently offer such programs. A score of 100 is then transformed into a 0-4 scale to count toward the III. The categorical levels of IEI: 0 (extremely low); 1 (emerging); 2 (some functional); 3 (functional); and, 4 (highly functional).

¤ **Islamic institutionalisation index (III)** measures the substantive role of Islam across Muslim countries. It is an aggregate of three indices; Islamic political institutions, Islamic educational institutions and Islamic financial institutions. The index ranges from 0-12 where lower scores indicate low level of Islamic institutions and high score indicate highly functional Islamic institutions. The categorical levels of III: 0-1 (extremely low); 2-4 (emerging); 5-7 (some functional); 8- 10 (functional); and 11-12 (highly functional).

2.4.3. Model

The literature commonly estimates the effects of legal rules on financial development using cross-country OLS regressions (Demirgüç-Kunt and Maksimovic, 2002; Djankov, La Porta, et al., 2008; Djankov et al., 2007; La Porta et al., 1997, 1998; Levine, 1998; Roe, 2006; Spamann, 2010; Stulz and Williamson, 2003). The small sample size of MENA presents a challenge when conducting cross-sectional analysis. Consequently, this essay uses a panel data approach. The larger sample size as a result of using panel data analysis provides for more informative data, more variability and more degrees of freedom, and hence yields more reliable statistical results for the effect of investor protection on financial market development. Further, panel data tackles the consequences of legal reforms for financial development and eliminates some econometric concerns regarding cross-sectional analysis. The generic regression equation is presented below:

$$\begin{aligned} \text{Financial Market Development}_{k,t} &= \beta_0 + \beta_1 \text{Legal Origin}_k + \beta_2 \text{Investor Protection}_{k,t-1} + \beta_3 \text{Law Enforcement}_{k,t-1} \\ &+ \beta_4 \text{Judicial Efficiency}_{k,t-1} + \beta_5 \text{Inflation}_{k,t-1} + \beta_6 \text{GDP Growth}_{k,t-1} + \varepsilon_{k,t} \end{aligned}$$

($i = 1, 2 \dots, 21$; $t = 2008, \dots, 2012$) Equation 1

This model is independently applied to both credit and stock markets. Financial market development is a measure of credit/stock market development for country k at year t . Legal origin is a dummy variable for country k . Investor protection measures the attributes of legal rules related to creditor rights and shareholder rights. Law enforcement measures the extent to which the legal rules are enforced. Judicial efficiency measures the efficacy of the judicial system in resolving commercial disputes. The inflation rate and GDP growth are control variables and $\varepsilon_{k,t}$ is the error term. All independent variables are for country k and lagged one year when appropriate.⁴¹

$$\begin{aligned} \text{Financial Market Development}_{k,t} &= \beta_0 + \beta_1 \text{Sharia Index}_k + \beta_2 \text{III}_k + \beta_3 \text{Legal Origin}_k + \beta_4 \text{Investor Protection}_{k,t-1} \\ &+ \beta_5 \text{Inflation}_{k,t-1} + \beta_6 \text{GDP Growth}_{k,t-1} + \varepsilon_{k,t} \end{aligned}$$

($i = 1, 2 \dots, 21$; $t = 2008, \dots, 2012$) Equation 2

The model is adapted from equation 1 to test the prediction of the ‘Law and Finance’ theory in the MENA region taking into consideration the legal duality and Islamic culture as potential factors for market development. To achieve this, two new variables are introduced into the model: the Sharia Index as a proxy for the dual legal systems in the MENA and the III as a composite index that reflects the prevailing Islamic culture. This augmented model tests the

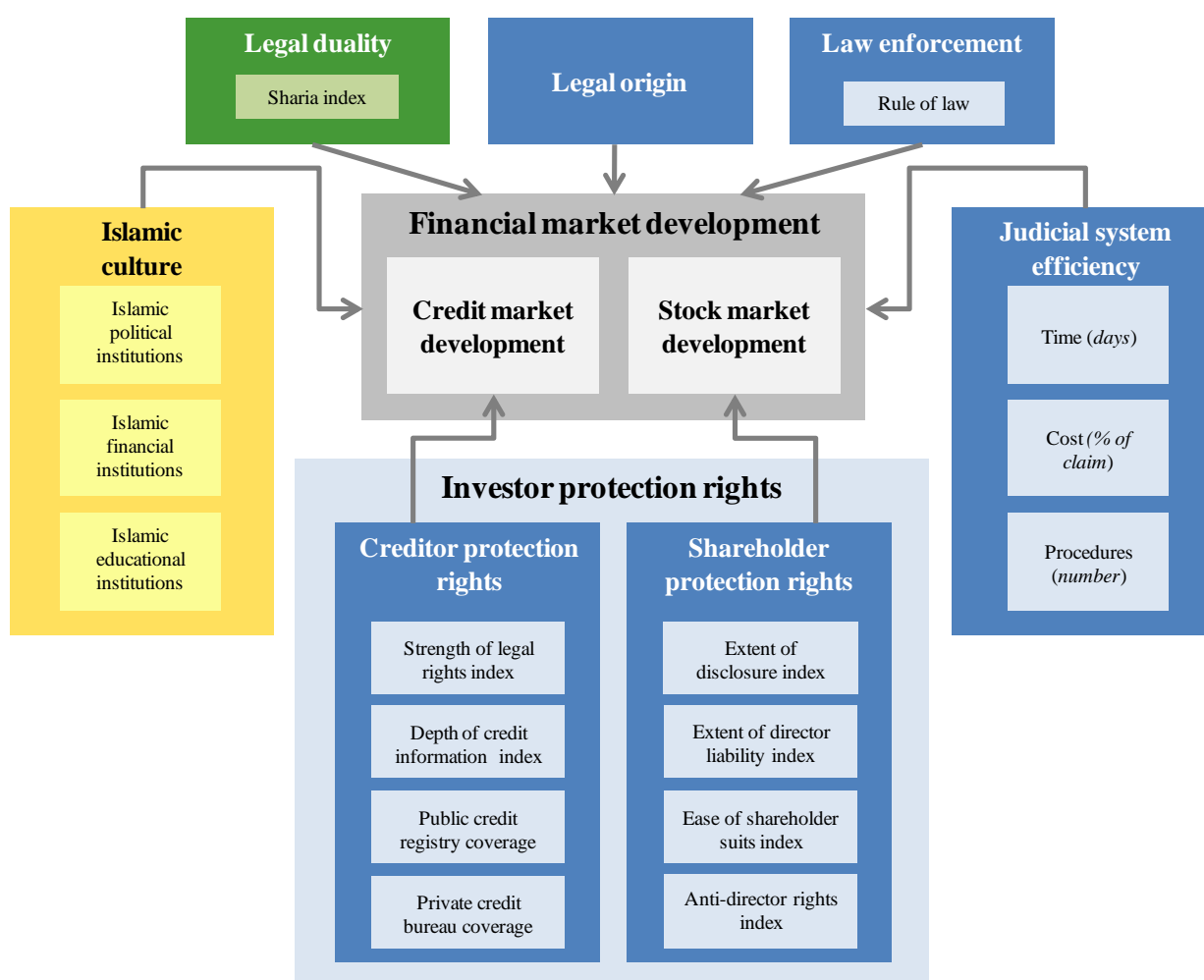
⁴¹ Using lagged independent variables is a modest solution for endogeneity.

effect of the dual legal system and Islamic culture on financial market development in the MENA.

2.4.4. Variables

Empirical tests of the impact of the legal environment and culture on financial market development in the MENA region requires identifying and quantifying the following constructs: financial market development; investor protection; law enforcement; judicial efficiency; the hybrid legal system; and, Islamic culture in each MENA country. Figure 2.4 presents a visual illustration of the model framework and the variables.

Figure 2.4 Financial market development framework



Source: Thesis analysis.

The grey shade represents financial market development for both credit and stock markets as the dependent variables. The blue shade represents the legal environment in relation to investor protection for creditors and shareholders, judicial efficiency, law enforcement and legal origin. The yellow shade represents the Islamic culture and the green shade is for legal duality which

reflects a combination of legal and cultural elements. The following sections discuss the variables used in this analysis, their definition, construction, coding and sources. Detailed variable definitions are presented in Table 2.6 and Table 2.7 presents the sign predicted for each of the variables by the model specification.

2.4.4.1. Financial market development

Financial market development is measured through the credit markets (banking sector) and stock markets. Kar, Nazlıoğlu, and Ağır (2011, p. 687) argue that measures of financial development should reflect the country's ability to channel savings into investment efficiently and effectively. The financial development variables used in the prior 'Law and Finance' literature are listed in Panel A of Appendix 3. This essay uses three variables to measure the credit market development: the natural logarithm of domestic credit to private sector in current USD; the natural logarithm of domestic credit to private sector in current USD to population; and, the ratio of domestic credit to private sector to GDP.⁴² Stock market development is also measured using three variables: the natural logarithm of stock market capitalisation in current USD; the natural logarithm of stock market capitalisation in current USD to population; and, the ratio of stock market capitalisation to GDP. The 'Law and Finance' literature, in particular the LLSV studies, commonly use the ratio of domestic credit and market capitalisation to GDP when measuring credit and stock market development (Beck et al., 2001; Beck et al., 2003b; Beck and Levine, 2002; Djankov et al., 2007; Djankov, Hart, McLiesh, & Shleifer, 2008; La Porta et al., 1997; La Porta et al., 2006; Levine et al., 2000; Rajan and Zingales, 2003; Spamann, 2010; Stulz and Williamson, 2003). The rationale for using two different alternatives of credit and stock market development stems from the wide divergence of the economic development of the MENA countries. While some MENA countries have huge endowments of oil and are very rich, others are among the world's poorest countries. Measuring financial market development as a ratio to GDP will distort the comparative figures.⁴³ Hence financial market development as ratios to GDP is used for comparability purposes along with other forms in levels and as ratios to population. Despite substantial improvements, the quality and quantity of data from the MENA countries pose obstacles to advances in research in that some stock market data is unavailable

⁴² Kar et al. (2011, p. 687) argue that a bond and stock markets variable would be inappropriate measures for financial development in the MENA region given that the markets are still underdeveloped. Kar et al. (2011, p. 688) favour the private credit as a measure of financial development for three reasons. First, it is more appropriate given the bank-based nature of the MENA region's economy. Second, the credit provided to the private sector generates increases in investment and productivity more than credits to the public sector. Third, loans to the private sector are provided more stringently and that the improved quality of investment emanating from financial intermediaries' evaluation of project viability is more significant for private sector credits.

⁴³ Market capitalisation to GDP looks misleadingly impressive for MENA countries because "it hides the fact that local markets are dominated by financial and infrastructure firms. Financial institutions account for more than half of market capitalisation in the region, while the share of industry and services is only 20%" OECD (2012, p. 23).

such as initial public offers (IPOs), ownership structure and seasoned equity offers. The list of financial development variables used in this essay and their definitions are presented in Panel A of Table 2.6.

2.4.4.2. Legal environment

Legal environment involves identifying the legal origin of each MENA country as determined from Reynolds and Flores (1989) and measurement of investor protection, law enforcement, judicial efficiency and the dual legal system.

2.4.4.2.1. Investor protection

As there are no direct quantitative measures available, the legal rules that are relevant for investor protection involve quantifying creditor and shareholder protection rights. Creditor and shareholder protection variables used in the prior ‘Law and Finance’ literature are presented in Panels B and C of Appendix 3, respectively.

In this research, two indices measuring the extent of creditor protection rights are used; the strength of legal rights and the depth of credit information. Both indices are survey-based measures provided by the World Bank ‘Doing Business’ database. The strength of legal rights index measures the degree to which collateral and bankruptcy laws protect the rights of borrowers and lenders and thus facilitates lending. The depth of credit information index measures rules and practices affecting the coverage, scope and accessibility of credit information available through either a public credit registry or a private credit bureau. Two other information dissemination variables are used, public credit registry and private credit bureau, which collect information on credit history and current indebtedness of borrowers and share this information with the lenders. The definition of creditor protection indices is presented in Panel B-1 of Table 2.6.⁴⁴

Four indices measuring the extent of shareholder rights are used. Three of which, the extent of disclosure index the extent of director liability index and the ease of shareholder suits index, are provided by the World Bank. The fourth index, the anti-director rights index, is constructed in

⁴⁴ The Doing Business Project adopts the methodology from Djankov et al. (2007). The data on the legal rights of borrowers and lenders are gathered through a questionnaire administered to financial lawyers and verified through analysis of laws and regulations as well as public sources of information on collateral and bankruptcy laws. The questionnaire is built on a case with a set of assumptions which makes the scores comparable across countries. The data on credit information sharing are built in two stages. First, banking supervision authorities and public information sources are surveyed to confirm the presence of a public credit registry or private credit bureau. Second, a detailed questionnaire on the public credit registry’s or private credit bureau’s structure, laws and associated rules is administered to the entity itself. Questionnaire responses are verified through several rounds of follow-up communication with respondents as well as by contacting third parties and consulting public sources. The questionnaire data are confirmed through teleconference calls or on-site visits in all economies (World Bank, 2014a).

this essay by direct reference to MENA countries corporate and commercial laws along Djankov, La Porta, et al., (2008) methodology (See Section 2.4.2.1 and Appendix 1 for further details).

The extent of disclosure index relates to the approval process and disclosure requirements for related party transactions. The extent of director liability index measures the ability of minority shareholders to file a direct or directive lawsuit and hold relevant parties and members of the approving body liable for prejudicial related party transactions. This index also considers the available legal remedies. The ease of shareholder suits index quantifies shareholders' ability to sue officers and directors for misconduct. It relates to the ability to access internal corporate document and information during a trial. The Doing Business Project adopted the methodology from Djankov, La Porta, et al. (2008). The data is collected from a questionnaire administered to corporate and securities lawyers and are based on securities regulations, company laws, civil procedure codes and court rules of evidence (World Bank, 2014a). The case assumptions, the list of indices, the definitions and the coding are presented in Panel B-2 of Table 2.6.

2.4.4.2.2. Law enforcement

The presence of investor protection in the legal codes is incomplete unless the extent of law enforcement is considered. This is because strong legal enforcement may substitute for weak legal rules. Gupta et al. (2011, p. 10) argue that rights and remedies conferred in private contracts provide protection to the contracting parties, however, the value of these rights and remedies depend upon the extent to which they are enforced within the public domain. The law enforcement variables used in prior literature are presented in Panel D of Appendix 3.

In this research, law enforcement is measured by a survey-based indicator called the 'rule of law'. The rule of law is based on the views and experiences of citizens, entrepreneurs and experts in the public, private and NGO sectors on the extent to which agents have confidence in and abide by the rules of society and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence (Kaufmann, Kraay, and Mastruzzi, 2013).

2.4.4.2.3. Judicial efficiency

An efficient judicial system can also substitute for weak legal rules. The efficiency of the judicial system in resolving commercial disputes is measured by three indicators: time; cost; and, number of procedures required to enforce a contract through the courts. The time indicator measures the calendar days to file the case, obtain trial, issue the judgement, and enforce the judgement. The cost indicator measures the average attorney fees, court and enforcement costs. The procedures indicator measures the number of steps required to file the case, obtain trial and judgement, and

then enforce the judgement. The Doing Business Project adopted the methodology from Djankov, La Porta, Lopez-de-Silanes, and Shleifer (2003). The data are built following the step-by-step evolution of a commercial sale dispute before local courts and is collected by analysing the codes of civil procedure and other court regulations as well as questionnaires completed by local litigation lawyers and by judges (World Bank, 2014a). The assumptions, the list of indices, the definitions and the coding are presented in Panel D of Table 2.6.

2.4.4.2.4. Dual legal system

The Sharia index measuring the constitutional role of Sharia is used as a proxy for the duality of the legal systems. Sharia index is an innovation of this essay and is developed from the constitutional provisions for each MENA country (see Section 2.4.2.2).

2.4.4.3. Culture

Islamic institutionalisation index (III) of Achilov (2010) presented in Section 2.4.2.3 and its three sub-indices, Islamic political institutions (IPI), Islamic financial institutions (IFI) and Islamic educational institutions (IEI) are used as measures of Islamic culture in the MENA.

2.4.4.4. Control variables

The gross domestic product (GDP), measured in levels and as a growth rate, and the rate of inflation for each MENA country are used to control for the economic development. The variables and the definitions are presented in Panel G of Table 2.6.

Table 2.6 List of variables for essay 1

Panel A: Financial market development variables	
Panel A-1: Credit market development variables	
Domestic credit to private sector	The natural logarithm of the financial resources provided to the private sector by financial corporations via loans and purchases of non-equity securities, trade credits and other accounts receivable that establish a claim for repayment. Measured in current USD.
Domestic credit to population	The natural logarithm of the domestic credit to private sector divided by population.
Domestic credit to GDP	Domestic credit to private sector divided by gross domestic product.
Panel A-2: Stock market development variables	
Market capitalisation	The natural logarithm of the share price times the number of shares outstanding of listed domestic firms measured in current USD. Listed domestic firms are the incorporated firms listed on the country's stock exchange at the end of the year.
Market capitalisation to population	The natural logarithm of the stock market capitalisation divided by population.
Market capitalisation to GDP	Stock market capitalisation divided by gross domestic product.
Source: World Bank, World Development Indicators.	

Table 2.6 List of variables for essay 1

Panel B: Investor protection variables	
Panel B-1: Creditor protection variables	
Strength of legal rights index	<p>The strength of legal rights index measures the degree to which collateral and bankruptcy laws protect the rights of borrowers and lenders and thus facilitate lending. The strength of legal rights index includes 8 aspects related to legal rights in collateral law and 2 aspects in bankruptcy law.</p> <p>Two case scenarios, case A and case B, are used to determine the scope of the secured transactions system. The case scenarios involve a secured borrower, the incorporated company ABC, and a secured lender, BizBank. In some economies, the legal framework for secured transactions will allow only case A or case B to apply (not both). Both cases examine the same set of legal provisions relating to the use of movable collateral.</p> <p>Assumptions about the secured borrower and lender:</p> <ul style="list-style-type: none"> ▪ ABC is a domestically incorporated, limited liability company. ▪ The company has up to 50 employees. ▪ ABC has its headquarters and only base of operations in the economy's largest business city. ▪ Both ABC and BizBank are 100% domestically owned. <p>Case assumptions:</p> <p>In case A, as collateral for the loan, ABC grants BizBank, a non-possessory security interest in one category of movable assets, for example, its machinery or its inventory. ABC wants to keep both possession and ownership of the collateral. In economies where the law does not allow non-possessory security interests in movable property, ABC and BizBank use a fiduciary transfer-of-title arrangement (or a similar substitute for non-possessory security interests). The strength of legal rights index does not cover functional equivalents to security over movable assets.</p> <p>In case B, ABC grants BizBank a business charge, enterprise charge, floating charge or any charge that gives BizBank a security interest over ABC's combined movable assets (or as much of ABC's movable assets as possible). ABC keeps ownership and possession of the assets. A score of 1 is assigned for each of the following features of the laws:</p> <ul style="list-style-type: none"> ▪ Any business may use movable assets as collateral while keeping possession of the assets, and any financial institution may accept such assets as collateral. ▪ The law allows a business to grant a non-possessory security right in a single category of movable assets (such as accounts receivable or inventory), without requiring a specific description of the collateral. ▪ The law allows a business to grant a non-possessory security right in substantially all its movable assets, without requiring a specific description of the collateral. ▪ A security right may be given over future or after-acquired assets and may extend automatically to the products, proceeds or replacements of the

Table 2.6 List of variables for essay 1

Panel B: Investor protection variables	
	<p>original assets.</p> <ul style="list-style-type: none"> ▪ A general description of debts and obligations is permitted in the collateral agreement and in registration documents; all types of debts and obligations can be secured between the parties, and the collateral agreement can include a maximum amount for which the assets are encumbered. ▪ A collateral registry or registration institution for security interests over movable property is in operation, unified geographically and by asset type, with an electronic database indexed by debtors' names. ▪ Secured creditors are paid first (for example, before tax claims and employee claims) when a debtor defaults outside an insolvency procedure. ▪ Secured creditors are paid first (for example, before tax claims and employee claims) when a business is liquidated. ▪ Secured creditors either are not subject to an automatic stay or moratorium on enforcement procedures when a debtor enters a court-supervised reorganisation procedure, or the law provides secured creditors with grounds for relief from an automatic stay or moratorium (for example, if the movable property is in danger) or sets a time limit for the automatic stay. ▪ The law allows parties to agree in a collateral agreement that the lender may enforce its security right out of court. <p>The index ranges from 0 to 10, with higher scores indicating that collateral and bankruptcy laws are better designed to expand access to credit.</p>
Depth of credit information index	<p>Measures rules and practices affecting the coverage, scope and accessibility of credit information available through either a public credit registry or a private credit bureau. A score of 1 is assigned for each of the following 6 features of the public credit registry or private credit bureau (or both):</p> <ul style="list-style-type: none"> ▪ Data on both firms and individuals are distributed. ▪ Both positive credit information (for example, outstanding loan amounts and pattern of on-time repayments) and negative information (for example, late payments and the number and amount of defaults and bankruptcies) are distributed. ▪ Data from retailers and utility companies as well as financial institutions are distributed. ▪ More than 2 years of historical data are distributed. Credit registries and bureaus that erase data on defaults as soon as they are repaid obtain a score of 0 for this indicator. ▪ Data on loan amounts below 1% of income per capita are distributed. Note that a credit registry or bureau must have a minimum coverage of 1% of the adult population to score a 1 on this indicator. ▪ By law, borrowers have the right to access their data in the largest credit registry or bureau in the economy. <p>The index ranges from 0 to 6, with higher values indicating the availability of more credit information from either a public credit registry or a private credit bureau, to facilitate lending decisions. If the credit registry or bureau is not operational or has coverage of less than 0.1% of the adult population, the score on the depth of credit information index is 0.</p>

Table 2.6 List of variables for essay 1

Panel B: Investor protection variables	
Private credit bureau coverage	A private credit bureau is defined as a private firm or non-profit organisation that maintains a database on the creditworthiness of borrowers (individuals or firms) in the financial system and facilitates the exchange of credit information among creditors. Credit investigative bureaus and credit reporting firms that do not directly facilitate information exchange among banks and other financial institutions are not considered. If no private bureau operates, the coverage value is 0%. Reports the number of individuals and firms listed by a private credit bureau's database as of January each year, with information on their borrowing history from the past 5 years. The number is expressed as a percentage of the adult population.
Public credit registry coverage	A public credit registry is defined as a database managed by the public sector, usually by the central bank or the superintendent of banks, which collects information on the creditworthiness of borrowers (individuals or firms) in the financial system and facilitates the exchange of credit information among banks and other regulated financial institutions. If no public registry operates, the coverage value is 0%. Reports the number of individuals and firms listed in a public credit registry's database as of January each year, with information on their borrowing history from the past 5 years. The number is expressed as a percentage of the adult population.
Source: World Bank, Doing Business Report.	
Panel B-2: Shareholder protection variables	
<p>To make the data comparable across economies, several assumptions about the business and the transaction are used.</p> <p>Assumptions about the business:</p> <p>The business (Buyer)</p> <ul style="list-style-type: none"> Is a publicly traded corporation listed on the economy's most important stock exchange? If the number of publicly traded companies listed on that exchange is less than 10, or if there is no stock exchange in the economy, it is assumed that Buyer is a large private company with multiple shareholders. Has a board of directors and a chief executive officer (CEO) who may legally act on behalf of Buyer where permitted, even if this is not specifically required by law. Has a supervisory board (applicable to economies with 2-tier board system) on which 60% of the shareholder-elected members have been appointed by Mr. James. Is a manufacturing company. Has its own distribution network. 	

Table 2.6 List of variables for essay 1

Panel B: Investor protection variables	
<p>Assumptions about the transaction:</p> <ul style="list-style-type: none"> Mr. James is Buyer's controlling shareholder and a member of Buyer's board of directors. He owns 60% of Buyer and elected 2 directors to Buyer's 5-member board. Mr. James also owns 90% of Seller, a company that operates a chain of retail hardware stores. Seller recently closed a large number of its stores. Mr. James proposes that Buyer purchase Seller's unused fleet of trucks to expand Buyer's distribution of its food products, a proposal to which Buyer agrees. The price is equal to 10% of Buyer's assets and is higher than the market value. The proposed transaction is part of the company's ordinary course of business and is not outside the authority of the company. Buyer enters into the transaction. All required approvals are obtained, and all required disclosures made (that is, the transaction is not fraudulent). <p>The transaction causes damages to Buyer. Shareholders sue Mr. James and the other parties that approved the transaction.</p>	
Extent of disclosure index	<p>The extent of disclosure index has 5 components:</p> <ul style="list-style-type: none"> Which corporate body can provide legally sufficient approval for the transaction. A score of 0 is assigned if it is the CEO or the managing director alone; 1 if the board of directors, the supervisory board or shareholders must vote and Mr. James is permitted to vote; 2 if the board of directors or the supervisory board must vote and Mr. James is not permitted to vote; 3 if shareholders must vote and Mr. James is not permitted to vote. Whether immediate disclosure of the transaction to the public, the regulator or the shareholders is required. A score of 0 is assigned if no disclosure is required; 1 if disclosure on the terms of the transaction is required but not on Mr. James's conflict of interest; 2 if disclosure on both the terms and Mr. James's conflict of interest is required. Whether disclosure in the annual report is required. A score of 0 is assigned if no disclosure on the transaction is required; 1 if disclosure on the terms of the transaction is required but not on Mr. James's conflict of interest; 2 if disclosure on both the terms and Mr. James's conflict of interest is required. Whether disclosure by Mr. James to the board of directors or the supervisory board is required. A score of 0 is assigned if no disclosure is required; 1 if a general disclosure of the existence of a conflict of interest is required without any specifics; 2 if full disclosure of all material facts relating to Mr. James's interest in the Buyer-Seller transaction is required. Whether it is required that an external body, for example, an external auditor, review the transaction before it takes place. A score of 0 is assigned if no; 1 if yes.

Table 2.6 List of variables for essay 1

Panel B: Investor protection variables	
	The index ranges from 0 to 10, with higher values indicating greater disclosure.
Extent of director liability index	<p>The extent of director liability index has 7 components:</p> <ul style="list-style-type: none"> Whether a shareholder plaintiff is able to hold Mr. James liable for the damage the Buyer-Seller transaction causes to the company. A score of 0 is assigned if Mr. James cannot be held liable or can be held liable only for fraud, bad faith or gross negligence; 1 if Mr. James can be held liable only if he influenced the approval of the transaction or was negligent; 2 if Mr. James can be held liable when the transaction is unfair or prejudicial to the other shareholders. Whether a shareholder plaintiff is able to hold the approving body (the CEO, members of the board of directors, or members of the supervisory board) liable for the damage the transaction causes to the company. A score of 0 is assigned if the approving body cannot be held liable or can be held liable only for fraud, bad faith, or gross negligence; 1 if the approving body can be held liable for negligence; 2 if the approving body can be held liable when the transaction is unfair or prejudicial to the other shareholders. Whether a court can void the transaction upon a successful claim by a shareholder plaintiff. A score of 0 is assigned if rescission is unavailable or is available only in case of fraud, bad faith or gross negligence; 1 if rescission is available when the transaction is oppressive or prejudicial to the other shareholders; 2 if rescission is available when the transaction is unfair or entails a conflict of interest. Whether Mr. James pays damages for the harm caused to the company upon a successful claim by the shareholder plaintiff. A score of 0 is assigned if no; 1 if yes. Whether Mr. James repays profits made from the transaction upon a successful claim by the shareholder plaintiff. A score of 0 is assigned if no; 1 if yes. Whether both fines and imprisonment can be applied against Mr. James. A score of 0 is assigned if no; 1 if yes. Whether shareholder plaintiffs are able to sue directly or derivatively for the damage the transaction causes to the company. A score of 0 is assigned if suits are unavailable or are available only for shareholders holding more than 10% of the company's share capital; 1 if direct or derivative suits are available for shareholders holding 10% or less of share capital <p>The index ranges from 0 to 10, with higher values indicating greater liability of directors.</p>
Ease of shareholder suits index	<p>The ease of shareholder suits index has 6 components:</p> <ul style="list-style-type: none"> What range of documents is available to the shareholder plaintiff from the defendant and witnesses during trial. A score of 1 is assigned for each of the following types of documents available: information that the defendant has indicated he intends to rely on for his defence; information that

Table 2.6 List of variables for essay 1

Panel B: Investor protection variables	
	<p>directly proves specific facts in the plaintiff's claim; any information relevant to the subject matter of the claim; and any information that may lead to the discovery of relevant information.</p> <ul style="list-style-type: none"> Whether the plaintiff can directly examine the defendant and witnesses during trial. A score of 0 is assigned if no; 1 if yes, with prior approval of the questions by the judge; 2 if yes, without prior approval. Whether the plaintiff can obtain categories of relevant documents from the defendant without identifying each document specifically. A score of 0 is assigned if no; 1 if yes. Whether shareholders owning 10% or less of the company's share capital can request that a government inspector investigate the Buyer-Seller transaction without filing suit in court. A score of 0 is assigned if no; 1 if yes. Whether shareholders owning 10% or less of the company's share capital have the right to inspect the transaction documents before filing suit. A score of 0 is assigned if no; 1 if yes. Whether the standard of proof for civil suits is lower than that for a criminal case. A score of 0 is assigned if no; 1 if yes. <p>The index ranges from 0 to 10, with higher values indicating greater powers of shareholders to challenge the transaction.</p>
Source: World Bank, Doing Business Report.	
Anti-director rights index	<p>Aggregate index of shareholder rights formed by summing: a) vote by mail; b) shares not deposited; c) cumulative voting; d) oppressed minority; e) pre-emptive rights; and f) capital to call a meeting.</p> <p>Vote by mail: Equals 1 if the law explicitly mandates or sets as a default rule that: a) proxy solicitations paid by the firm include a proxy form allowing shareholders to vote on agenda items; or b) a proxy form to vote on the agenda items accompanies the meeting notice; or c) shareholders vote by mail on the agenda items (i.e., postal ballot); and equals 0 otherwise.</p> <p>Shares not deposited: Equals 1 if the company law or commercial code does not allow firms to require that shareholders deposit with the firm itself or another firm any of their shares prior to a general shareholders meeting, thus preventing them from selling those shares for a number of days, and equals 0 otherwise.</p> <p>Cumulative voting: Equals 1 if the law explicitly mandates or sets as a default rule that shareholders owning 10% or less of the capital can cast all their votes for one board of directors or supervisory board candidate (cumulative voting) or if the law explicitly mandates or sets as a default rule a mechanism of proportional representation in the board of directors or supervisory board by which shareholders owning 10% or less of the issued capital can name a proportional number of directors to the board; and equals 0 otherwise.</p>

Table 2.6 List of variables for essay 1

Panel B: Investor protection variables	
	<p>Oppressed minority: Index of the difficulty faced by minority shareholders in challenging (i.e., by either seeking damages or having the transaction rescinded) resolutions that benefit controlling shareholders and damage the firm. Equals 1 if minority shareholders can challenge a resolution of both the shareholders and the board if it is unfair, prejudicial, oppressive, or abusive; equals 0.5 if shareholders are able to challenge either a resolution of the shareholders or of the board if it is unfair, prejudicial, or oppressive; and equals 0 otherwise.</p> <p>Pre-emptive rights: Equals 1 when the company law or commercial code grants shareholders the first opportunity to buy new issues of shares, and this right can be waived only by a shareholders' vote; and equals 0 otherwise.</p> <p>Capital to call a meeting: The minimum percentage of share capital or voting power that the law mandates or sets as a default rule that entitles a single shareholder to call a shareholders' meeting (directly or through the court). Equals 1 when capital to call a meeting is less than or equal to 10%; and equals 0 otherwise.</p> <p>Source: Thesis analysis (Section 2.4.1 and Appendix 1).</p>
Panel C: Law enforcement	
Rule of law	<p>It is a proxy for law enforcement. It captures perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence. It is measured in units of a standard normal distribution. Higher values corresponding to better governance.</p> <p>Source: Kaufmann et al. (2013)</p>

Table 2.6 List of variables for essay 1

Panel D: Efficiency of the judicial system	
<p>Assumptions about the case</p> <ul style="list-style-type: none"> ▪ The value of the claim equals 200% of the economy's income per capita. ▪ The dispute concerns a lawful transaction between 2 businesses (Seller and Buyer), located in the economy's largest business city. Seller sells goods worth 200% of the economy's income per capita to Buyer. After Seller delivers the goods to Buyer, Buyer refuses to pay for the goods on the grounds that the delivered goods were not of adequate quality. ▪ Seller (the plaintiff) sues Buyer (the defendant) to recover the amount under the sales agreement (that is, 200% of the economy's income per capita). Buyer opposes Seller's claim, saying that the quality of the goods is not adequate. The claim is disputed on the merits. The court cannot decide the case on the basis of documentary evidence or legal title alone. ▪ A court in the economy's largest business city with jurisdiction over commercial cases worth 200% of income per capita decides the dispute. ▪ Seller attaches Buyer's movable assets (for example, office equipment and vehicles) before obtaining a judgment because Seller fears that Buyer may become insolvent. ▪ An expert opinion is given on the quality of the delivered goods. If it is standard practice in the economy for each party to call its own expert witness, the parties each call one expert witness. If it is standard practice for the judge to appoint an independent expert, the judge does so. In this case, the judge does not allow opposing expert testimony. ▪ The judgment is 100% in favour of Seller: the judge decides that the goods are of adequate quality and that Buyer must pay the agreed price. ▪ Buyer does not appeal the judgment. Seller decides to start enforcing the judgment as soon as the time allocated by law for appeal expires. <p>Seller takes all required steps for prompt enforcement of the judgment. The money is successfully collected through a public sale of Buyer's movable assets (for example, office equipment and vehicles).</p>	
Time	Time is recorded in calendar days, counted from the moment the plaintiff decides to file the lawsuit in court until payment. This includes both the days when actions take place and the waiting periods between. The average duration of different stages of dispute resolution is recorded: the completion of service of process (time to file and serve the case); the issuance of judgment (time for the trial and obtaining the judgment); and, the moment of payment (time for enforcement of the judgment).
Cost	Cost is recorded as a percentage of the claim, assumed to be equivalent to 200% of income per capita. No bribes are recorded. Three types of costs are recorded: court costs; enforcement costs; and, average attorney fees. Court costs include all court costs that Seller (plaintiff) must advance to the court, regardless of the final cost to Seller. Enforcement costs are all costs that Seller (plaintiff) must advance to enforce the judgment through a public sale of Buyer's movable assets, regardless of the final cost to Seller. Average attorney fees are the fees that Seller (plaintiff) must advance to a

Table 2.6 List of variables for essay 1

Panel D: Efficiency of the judicial system	
	local attorney to represent Seller in the standardised case.
Procedures	The list of procedural steps compiled for each economy traces the chronology of a commercial dispute before the relevant court. A procedure is defined as any interaction, required by law or commonly used in practice, between the parties or between them and the judge or court officer. Other procedural steps internal to the court or between the parties and their counsel may be counted as well. Procedural steps include: steps to file and serve the case; steps to assign the case to a judge; steps for trial and judgment; and, steps necessary to enforce the judgment. To indicate overall efficiency, 1 procedure is subtracted from the total number for economies that have specialised commercial courts, and 1 procedure for economies that allow electronic filing of the initial complaint in court cases.
Source: World Bank, Doing Business Report.	

Table 2.6 List of variables for essay 1

Panel E: Islamic culture	
Islamic Institutionalisation Index (III)	Measures the substantive role of Islam across Muslim countries. It is an aggregate of three indices: Islamic political institutions; Islamic educational institutions; and, Islamic financial institutions. The index ranges from 0-12 where lower scores indicate low level of Islamic institutions and high score indicate highly functional Islamic institutions. The categorical levels of III: 0-1 (extremely low); 2-4 (emerging); 5-7 (some functional); 8- 10 (functional); and 11-12 (highly functional).
Islamic political institutions (IPI)	It is derived from the following indicators that are added together to reflect a final measure for the IPI: 1) number of Islamic parties: 0 (none), 1 (low), 2 (medium), 3 (high); 2) times elected to form a government: 0 (none), 2 (once), 3 (multiple); 3) levels of restrictions in political system: 4 (none), 2 (medium), 0 (high). The categorical classification of IPI, based on its raw scores, is as follows: extremely low (0-3), emerging (4-6), some functional (7-10), functional (11-13), highly functional (14-16). A score of 16 is then transformed into a 0-4 scale to count toward the III. The categorical levels of IPI: 0 (extremely low); 1 (emerging); 2 (some functional); 3 (functional); and, 4 (highly functional).
Islamic financial institutions (IFI)	A quantitative measure of 0-10 was obtained by the total assets and deposits available in Islamic banks divided by the country's work-force population.). The categorical classification based on raw scores of IFI are as follows: extremely low (0-1), emerging (2-3), some functional (4-5), functional (6-8), highly functional (9-10). A score of 10 is then transformed into a 0-4 scale to count toward III. The categorical levels of IFI: 0 (extremely low); 1 (emerging); 2 (some functional); 3 (functional); and, 4 (highly functional).
Islamic educational institutions (IEI)	Captures the level of Islamic education in tertiary educational system. The opportunity level in tertiary education is measured by the number of higher educational institutions, which offer degrees or structured programs in Islamic studies divided by the total number of eligible institutions, which do not currently offer such programs. A score of 100 is then transformed into a 0-4 scale to count toward the III. The categorical levels of IEI: 0 (extremely low); 1 (emerging); 2 (some functional); 3 (functional); and, 4 (highly functional).
Source: Achilov (2010).	

Table 2.6 List of variables for essay 1

Panel F:Hybrid legal system	
Sharia Index	It measures the constitutional role of Sharia. Equals 0 when Sharia plays no constitutional role (wholly secular constitution); 1 when Sharia' role is limited to the identity of the state; 2 when Sharia is a main source of legislation; 3 when Sharia is the main source of legislation; and 4 when Sharia is the constitution of the country. Source: Thesis analysis (Section 2.4.2.2).
Panel G: Other variables	
Legal Origin	Identifies the legal origin of the company law or commercial code of each country. Equals 1 if the origin is English common law and 0 otherwise. Source: Reynolds and Flores (1989).
GDP	The natural logarithm of GDP in current USD.
Real GDP growth	Annual percentage growth rate of real GDP in USD, based on 2000 prices.
Rate of inflation	Annual percentage growth rate of consumer price index.
Source: World Bank, World Development Indicators.	

Table 2.7 A summary of the model for financial market development

‘Law and Finance’ theory		
Explanation	Variable (proxy)	Predicted sign
Legal origin	Legal origin dummy	+
Creditor protection	Strength of legal rights	+
	Depth of credit information	+
	Public credit registry coverage	+
	Private credit bureau coverage	+
Shareholder protection	Extent of disclosure index	+
	Extent of director liability index	+
	Ease of shareholder suit index	+
	Anti-director rights index	+
Law enforcement	Rule of law	+
Judicial efficiency	Time	-
	Procedures	-
	Cost	-
Islamic culture	Islamic Institutionalisation Index	?
	Islamic political institutions	?
	Islamic educational institutions	?
	Islamic financial institutions	?
Duality of legal system	Sharia Index	?
Macro-economic variables	GDP	+
	Real GDP growth	+
	Inflation	-

Source: Thesis analysis.

2.4.5. Estimation

The regression results are based on pooled OLS estimation with Driscoll and Kraay (1998) correction for standard errors that accommodates for heteroskedasticity, serial correlation and contemporaneous correlation. Given the small sample size, the bootstrap method is also used as a robustness check. The following paragraphs present the rationale for the method selection.

OLS estimation produces the best linear unbiased estimator (BLUE) if the errors are independent of each other both serially and contemporaneously and homoskedastic across time and countries. Having data over time for the same cross-section countries makes these assumptions very restrictive for panel data. When panel data is used, the error structure of the model is more complicated than is typical of either time-series or cross-sectional models. Different assumptions about the error structure using panels lead to different models of estimation. It is common for panel data errors to exhibit serial and contemporaneous correlation and panel-level heteroskedasticity (Petersen, 2009, p. 436). Serial correlation arises as errors for a particular country at one period are related to errors for that country at other periods. Whereas contemporaneous correlation exists when the errors for one country at time t relate to the errors for every other country at the same time. Finally, heteroskedasticity is present when the cross-sectional countries vary by size and exhibit unequal variation. Estimating the coefficients using OLS in the presence of these violations produces consistent estimates but the standard errors are biased which leads to incorrect statistical inferences (Baltagi, 2008, pp. 87, 92). The bias in the OLS standard error means that there is information in the residuals that can be used to improve the efficiency of the estimates. Since the social norms and psychological behaviour patterns enter panel regressions as unobservable common factors, complex forms of contemporaneous and serial dependence arise especially when the sample is a selection of countries that belong to one region (Hoechle, 2007, p. 282). Hence it is critical to select an estimation method that is capable to accommodate the complex error structure of panel data.

The literature uses three different estimation methods for panel data. One method is the error component model including the fixed and random effects models. Another approach pools time-series of cross-section including the Parks method and the panel corrected standard errors (PCSE). The third method uses an OLS estimator for coefficients but corrects the standard errors for possible violations (Baltagi, 2008, pp. 14, 17, 214, 216, 233; Petersen, 2009, p. 436).

Error component models, fixed effects and random effects are inappropriate estimator for this essay. Due to the presence of time invariant variables and that the key investor protection indices do not vary much over time, the fixed effects model is ruled out (Wooldridge, 2010, p. 326; Beck, 2001, p. 285). Further, the small sample size makes the estimation of fixed effects model less

feasible; it involves estimating too many parameters and hence loss of degrees of freedom (Baltagi, 2008, p. 17). The random effects model is an appropriate specification if the sample is drawn randomly from a large population (Baltagi, 2008, p. 17).⁴⁵ The MENA data is not a random sample of a larger population; it is fixed ($N=21$) and all inferences are conditioned on the observed countries. Furthermore, the only way of re-sampling is by observing a new draw of MENA data for some year; N will always be 21 countries whereas T may vary. Based on this analogy, the random effects model may not be appropriate.

The most relaxed methods of pooling time series of cross-section data that accommodates error violations are the Feasible Generalised Least Squares (FGLS) estimator proposed by Parks (1967) and Kmenta (1986) and the PCSE proposed by Beck and Katz (1995) (Baltagi, 2008, pp. 214, 233). The FGLS is infeasible because the time dimension, $T=6$, is smaller than its cross-sectional dimension, $N=21$, making the variance-covariance matrix singular.⁴⁶ Similarly, the PCSE is inappropriate. Beck (2001, p. 274) notes that PCSE requires a reasonably large T that makes averages over the time periods for each country make sense.⁴⁷ Driscoll and Kraay (1998) in Hoechle (2007, p. 284) point out that Beck and Katz (1995) PCSE method maybe problematic for medium panels; PCSE estimates the contemporaneous covariance matrix, and this estimate is imprecise if the ratio T to N is small. Due to these data limitations both FGLS and PCSE are ruled out.

Empirical finance research commonly uses OLS with robust standard errors to potentially unknown variance and covariance properties of the errors. The most common approaches for estimating the standard errors in Finance panel data sets are: The Fama-McBeth procedure; clustered standard errors; heteroskedasticity consistent standard errors (HC) of White (1980); heteroskedasticity and autocorrelation consistent (HAC) standard errors proposed by Newey and West (1987); and, HAC of cross-section averages proposed by Driscoll and Kraay (1998). Except for Driscoll and Kraay (1998), the standard error corrections listed above do not simultaneously correct for all possible dependencies in the data (Reed and Ye, 2009, p. 985). According to Petersen (2009) survey, a significant proportion (42%) of published articles in top Finance journals fails to appropriately adjust the standard errors for possible dependencies in the

⁴⁵ Beck (2001, p. 273) distinguishes between panel data and time-series-cross-section (TSCS) data. Beck's argument suggests that TSCS data are fixed and the researcher is not interested in extending inference to a larger hypothetical population of similar countries. That is all inferences of interest are conditional on the observed countries. However, countries observed in panels are of no interest; all inferences of interest concern the underlying population that was sampled, rather than being conditional on the observed sample. Beck (2001) argues that this distinction has theoretical implications. While all asymptotics for TSCS data are in T , asymptotics for panel data are in N .

⁴⁶ FGLS performs well in large sample since estimation of the residual covariance matrix improves as NT increases relative to the number of parameters in the error covariance matrix that must be estimated.

⁴⁷ Beck (2001, p.274) note that one ought to be suspicious of PCSE and PARKS methods used for $T < 10$.

errors. While it is common for panel data estimation to correct for serial correlation, cross-sectional correlation is not always addressed appropriately (Hoechle, 2007). Baltagi (2008, p. 216) argues that contemporaneous correlation is not critical in randomly drawn samples. However, when dealing with a cross-section of countries or regions, these aggregate units are expected to exhibit contemporaneous correlation that has to be dealt with. Assuming that the residuals of a panel model are correlated within but uncorrelated between countries, often imposes an artificial and inappropriate constraint on empirical models (Hoechle, 2007, p. 282). Therefore, erroneously ignoring possible correlation of regression disturbances over time and between countries can lead to biased statistical inference. Driscoll-Kraay standard errors tackle the complex error structure of the data by addressing heteroskedasticity, serial correlation and contemporaneous correlation.

Driscoll and Kraay (1998) propose estimating the panel regression by pooled OLS and use standard errors that are robust to heteroskedasticity and general forms of contemporaneous and serial correlation. Driscoll-Kraay approach is an extension of Newey and West's non-parametric variance-covariance estimator to the sequence of cross-sectional averages of the moment conditions. Driscoll-Kraay standard errors are computed by taking cross-section averages of products of the moment conditions and then computing a HAC covariance matrix estimator with these cross-section averages. As researchers often impose restrictions on the contemporaneous correlation matrix, Driscoll and Kraay (1998) advocate implementing non-parametric corrections for the contemporaneous dependence. This non-parametric estimation of standard errors places no restrictions on the limiting behaviour of the number of panels and the size of the cross-sectional dimension in finite samples. It eliminates deficiencies of large- T consistent covariance matrix estimators of PCSE approach. Further, it does not constitute a constraint on feasibility even if the number of panels is much larger than T (Hoechle, 2007, p. 284). Adjusting the standard error estimates in this way guarantees that the covariance matrix estimator is consistent and independent of the cross-sectional dimension N .

Bootstrap can be used as an alternative to asymptotic approximations for obtaining confidence intervals (Efron and Tibshirani, 1993, p. 169). Gauss-Markov theorem holds that OLS estimators are normally distributed if the model's errors are normally distributed. The central limit theorem assures that this error is normal when the sample size is large. If this parametric assumption holds, accurate confidence intervals for these coefficients can be developed using standard distribution tables. However, this sort of distributional assumptions often violated, even the relatively weak assumption of symmetry is often invalid (Efron, 1981, p. 151). In such a case, parametric inferential statements about OLS estimators may be inaccurate (Mooney and

Duval, 1993, p. 15). Asymptotic approximations may result in poor approximation to the distribution of the test statistics especially for small sample sizes (Wooldridge, 2010). One situation where the errors in a regression model could be non-normal is when the dependent variable is highly skewed. Because the independent variables in an OLS regression model are assumed to be fixed, the distribution of the error is entirely determined by the dependent variable. Therefore, if the dependent variable is highly skewed, the assumption of normal distribution is likely to be violated, at least in small sample (Mooney and Duval, 1993, p. 56).

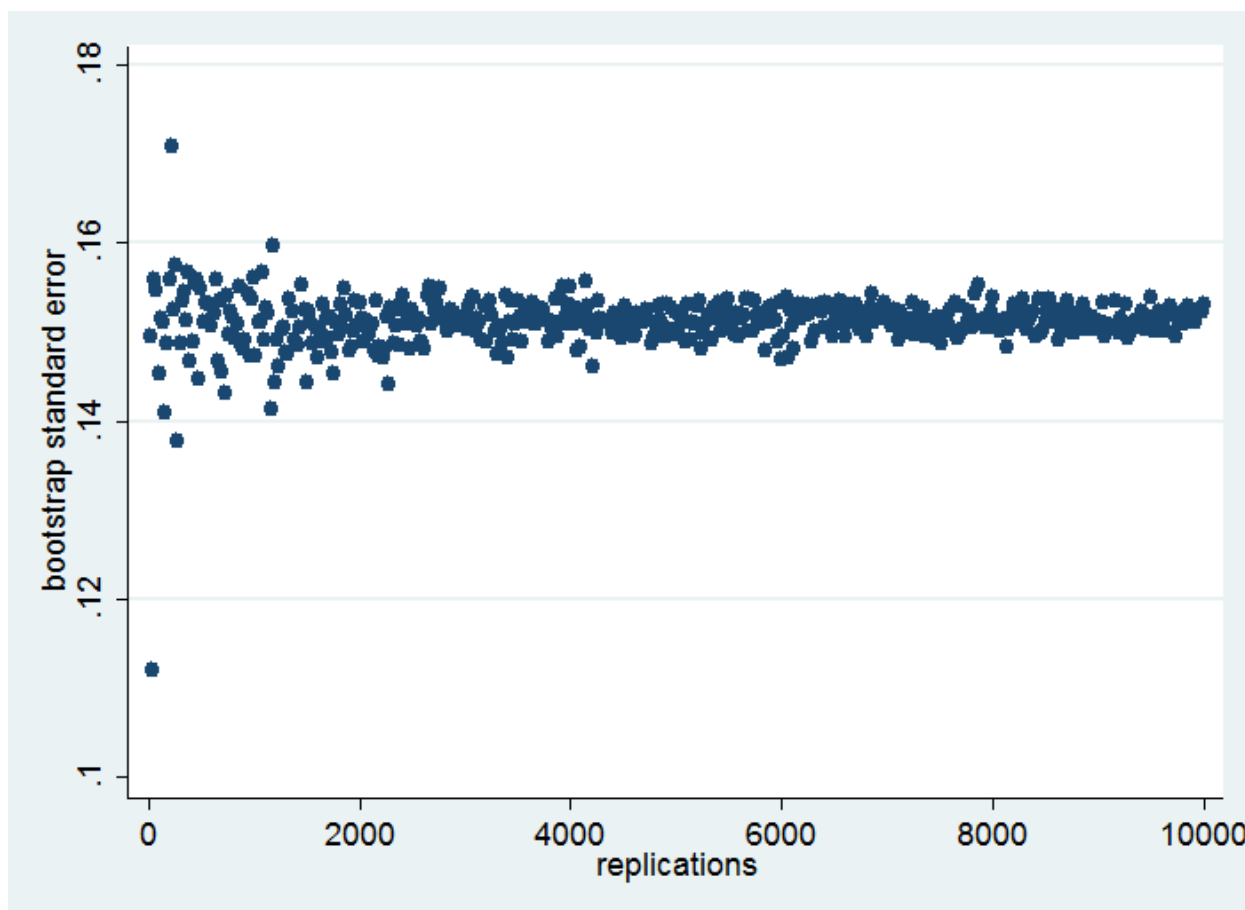
Given the small sample size of MENA, OLS results based on asymptotic approximations may not be accurate. Bootstrap results that follow the probability distribution function of the data present a robustness check and give confidence to the OLS results.

Bootstrapping is suggested as an appropriate means to obtaining confidence intervals when there is no readily available finite sample distribution of the statistics (Mooney and Duval, 1993, p. 55; Enders, 2004, p. 235). The bootstrap is a re-sampling technique developed by Efron (1979). It treats the original sample as the population and generates a number of pseudo-samples from the original sample. For each pseudo-sample, the statistic of interest is calculated and the distribution of this statistic across pseudo-samples is used to infer the distribution of the original sample statistic. Horowitz (1997, p. 188) argues that the bootstrap is often more accurate in finite samples than first-order asymptotic approximations.⁴⁸

The central limit theory suggests that as the sample size becomes larger, the bootstrap histogram will become normal shaped. If the bootstrap distribution of the coefficients is normal, then the percentile intervals and the standard normal intervals will converge. However, for small samples it may look non-normal and hence the percentile intervals will differ from the normal intervals (Efron and Tibshirani, 1993, p. 171). It often suffices to choose a large number of bootstraps that further increases have no important effect (Horowitz, 2001, p. 3181). Theoretically, an infinite number of replications is what the bootstrap requires. The key to bootstrap usefulness is that it converges in terms of numbers of replications reasonably quickly, so running a finite number of replications is generally sufficient (Gould and Pitblado, 2010). Figure 2.5 shows that any number above 5,000 replications does not significantly increase the precisions. Hence 5,000 replications are selected.

⁴⁸ Thanks to Gulasekaran Rajaguru, Tom Smith, and Léopold Simar who provided insights for using bootstrap technique.

Figure 2.5 Bootstrap replications selection



Source: Thesis analysis.

The block bootstrap as suggested by Bertrand, Duflo, and Mullainathan (2004, p. 265) with minor changes is applied. The pseudo-sample generation and bootstrap estimation are as follows:

Step 1: Generating the bootstrap sample involves a random selection with replacement for pairs of blocks (Y, X). In order to preserve the data generating process of the original sample (serial correlation structure of the error term), panels rather than individual observations are randomly selected. The generation of the bootstrap sample involves two steps. First, a random number between [1-18] for stock market and between [1-20] for credit market is generated for a given country selection. Second, a random number between [1-4] is generated twice for year selection. If the number equals 1, then years 2007 to 2010 are selected as a block. If the number equals 2, then years 2008 to 2011 are selected as a block. If the number equals 3, then years 2009 to 2011 are selected as a block. Finally, if the number equals 4, then years 2010 to 2012 are selected as a block.⁴⁹ Step 1 is repeated 18 times for the stock market and 20 times for the credit market to generate a sample that mimics the original sample size.

⁴⁹ Another specification has been used which re-samples the whole block of each country for 6 years at once.

Step 2: Estimate the model using OLS and record the beta coefficient estimates.

Step 3: Repeat steps 1 and 2, five thousand times.

Step 4: Develop a distribution for the coefficients and specify the appropriate percentiles (0.5, 2.5, 5, 95, 97.5, 99.5) of these sampling distributions. These represent the confidence intervals for the estimated coefficient. If the confidence interval at 90%, 95% and 99% levels does not contain zero, the coefficient is statistically significant at each respective level. Otherwise, the coefficient is statistically insignificant from zero.

2.5. Empirical analysis

In Section 2.5.1, the distribution of the variables for the overall sample, the correlation between the variables, the comparative investor protection for each MENA country, the frequency of investor protection and Islamic culture by legal origin and tests of the differences in the mean (median) of variables by legal origin are described. Then Section 2.5.2 presents the empirical results for the multivariate regressions that examine the impact of the legal environment and culture on financial market development. Robustness analysis is discussed in Section 2.5.3 which reports the bootstrap results. In all tables ^{***}, ^{**} and ^{*} denote significance at 1%, 5% and 10% levels, respectively.

2.5.1. Univariate and bivariate analysis

Table 2.8 presents summary descriptive statistics for the whole sample.⁵⁰ The mean (median) of domestic credit to private sector in the MENA is USD71.77 (USD30.44) billion over the period 2007-2012. The heterogeneity in the credit market development is evident from the standard deviation figures. The minimum value of domestic credit to private sector is USD1.19 billion for Palestine in 2008 while the maximum value is USD429.32 billion for Turkey in 2012. The skewness and kurtosis figures show that the credit market development variables are non-normal and exhibit positive skewness (1.73). Kurtosis for the credit market is 2.84. As this statistic is less than three, it indicates a platykurtic distribution where the probability for extreme values is less than for a normal distribution and the values are less clustered around the mean.

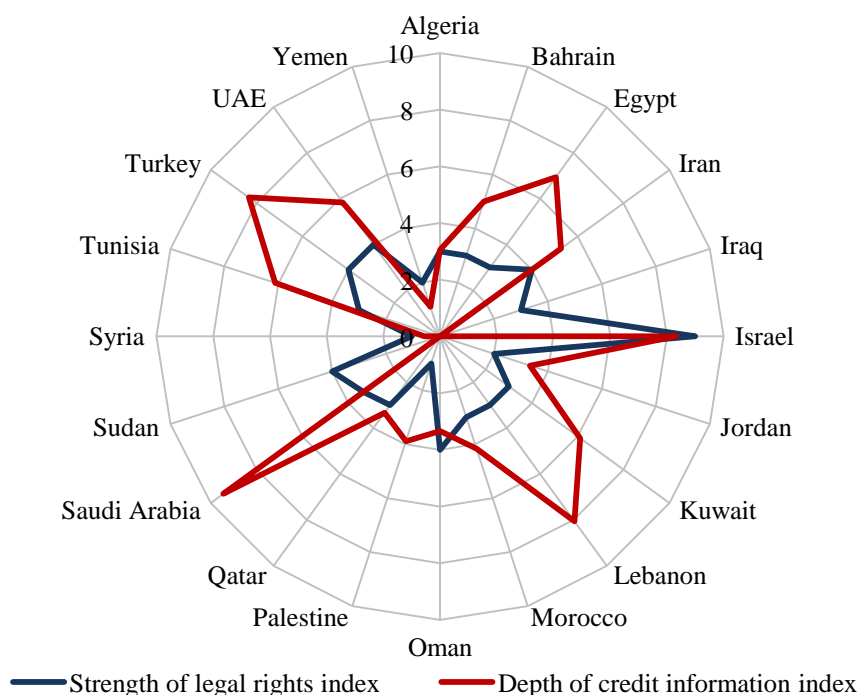
The mean (median) market capitalisation in the MENA is USD80.74 (USD43.39) billion over the period 2007-2012. The heterogeneity is evident where the lowest stock market capitalisation of USD90.06 million is for Algeria in 2009, while the largest market capitalisation of USD515.11 billion is for Saudi Arabia in 2007. The skewness and kurtosis figures show that stock market development variables are non-normal with positive skewness (1.83). The kurtosis (3.58) for stock market is greater than three, indicating a leptokurtic distribution with high probability for extreme values.

Creditor protection measured in terms of strength of legal rights and depth of credit information, ranges from 0 to 10 and from 0 to 6, respectively. The mean (median) score for creditor protection in the MENA is 3.28 (3.00) when measured by the strength of legal rights index and 2.78 (2.00) when measured by the depth of credit information index. Figure 2.6 presents the comparative creditor protection by index for each MENA country. The radii represent the MENA countries and each point on the circumferences represents the average creditor protection

⁵⁰ Due to the length of table, descriptive statistics by country is provided in Appendix 4.

for that particular country over the period 2006-2011. The centroid represents the minimum score of zero and as the outline moves outward the level of creditor protection increases. The figure reveals that the strength of legal rights is weakest in Palestine and Syria with a score of one and strongest in Israel with a score of nine. The depth of the credit information is lowest in Iraq and Sudan with a score of zero and highest in Egypt and Saudi Arabia with a score of six.⁵¹

Figure 2.6 Comparative creditor protection: (average 2006-2011)



Source: Thesis analysis.

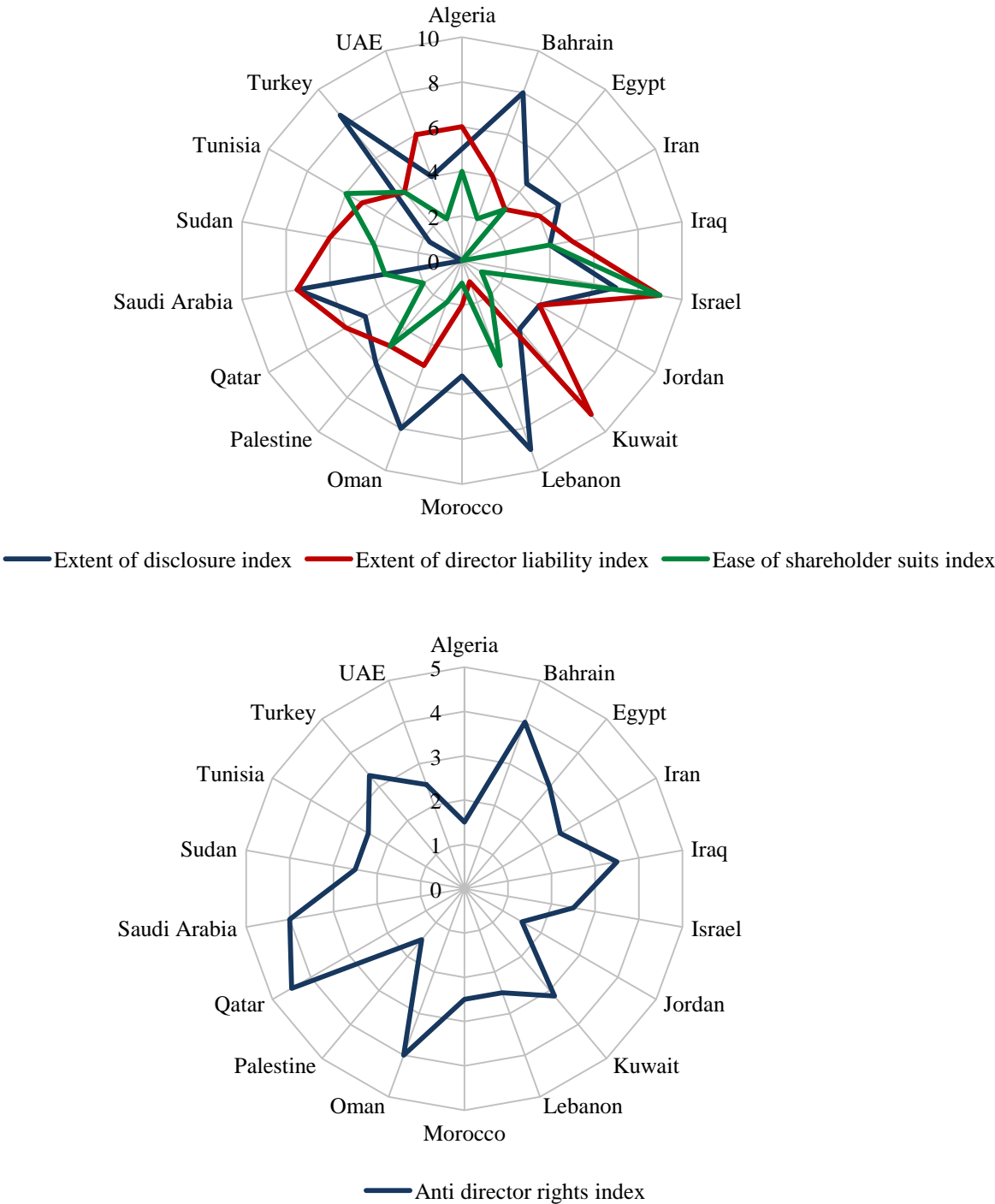
The average percentage of individuals and firms listed by the private credit bureau (10.14) is higher than the average number listed in a public credit registry (4.24). Only nine MENA countries (Bahrain, Egypt, Iran, Israel, Kuwait, Morocco, Saudi Arabia, Turkey and UAE) operate private credit bureaus whereas 15 MENA countries operate public credit registries.

Shareholder protection measured in terms of the extent of disclosure, the extent of director liability and ease of shareholder suits, all range from 0 to 10 whereas the anti-director rights index ranges from 0 to 6. The mean (median) score is 5.39 (5.00) for the extent of disclosure index, 5.03 (5.00) for the extent of director liability index, 3.22 (3.00) for the extent of shareholder suit index and 2.81 (2.50) for the anti-director rights index. Figure 2.7 presents the comparative shareholder protection by index for each MENA country respectively. The extent of disclosure index varies widely across MENA. Disclosure is lowest in Sudan and Tunisia with a score of zero and highest in Turkey and Lebanon with a score of nine. The director liability

⁵¹ The strength of legal rights and the depth of credit information are unavailable for Libya.

index is lowest in Lebanon with a score of one and highest in Israel and Kuwait with a score of nine. The ease of shareholder suits index is lowest in Iran with a score of zero and highest in Israel with a score of nine. A smaller range is evident for the anti-director rights index. The lowest statistic is for Algeria, Jordan and Palestine with a score of 1.5 and the highest in Qatar (4.5).

Figure 2.7 Comparative shareholder protection: (average 2006-2011)



Source: Thesis analysis.

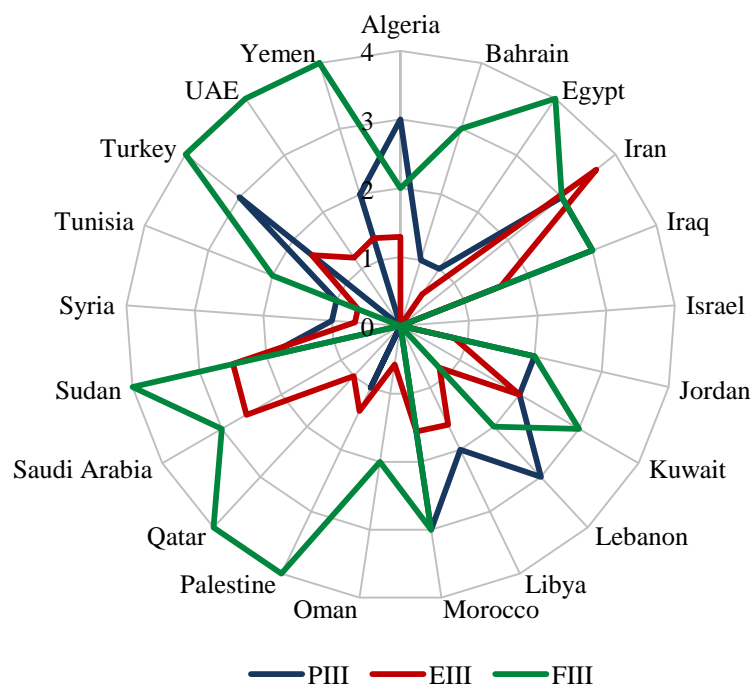
There are substantial variations among countries in the efficiency of the judicial system. On average, the time required to resolve a commercial dispute ranges from 420 days in Turkey to 1,010 days in Egypt. The cost to resolve a commercial dispute (as a percentage of the claim) ranges from 13.5% in Oman to 32.5% in Iraq. The number of procedures required ranges between 35 in Israel to 55 in Syria. Overall, the average time, cost and number of procedures required to resolve a commercial dispute in the MENA is 648 days, 24% of the claim and 43.85 procedures respectively.

Law enforcement, measured by the rule of law, is lowest in countries where there is war and conflict such as Iraq, Libya and Yemen and high in countries with stable governments. For example, the lowest score of -1.92 is for Iraq in 2007 while the highest score of 1.01 is for Qatar in 2009.

The extent of Islamic culture is captured by the three indices: IPI, IEI and IFI each ranging from 0 to 4 and the aggregate index III ranging from 0 to 12. Figure 2.8 presents the comparative III and its sub-components for each MENA country respectively. All GCC, except for Bahrain and Kuwait, have zero scores on the IPI where there are no active Islamic political parties. Significant number of countries ranks high (3) on the IPI such as Algeria, Iran, Iraq, Lebanon, Morocco and Turkey. All these countries have active Islamic political parties with experience in government. The level of Islamic education (IEI) is lowest in Bahrain (0) and highest in Iran (3.64). Except for Syria, Libya and Israel, all MENA countries rank high in terms of IFI where Islamic banking venues are available. Overall, Israel ranks the lowest (0) on III and both Iran and Turkey exhibit high Islamic culture measures with III scores of 9.6 and 8.7 respectively.

The heterogeneity is evident in the economic activity especially between oil vs. non-oil producing countries. Highest GDP figures are for Turkey (USD774.8 billion) and Saudi Arabia (USD669.5 billion) in 2011, whereas the lowest GDP is for Palestine in 2006 (USD4.6 billion). When the economic activity is measured as GDP per capita, the highest-ranking country is Qatar (USD91 thousand) and the lowest ranking countries are Sudan (USD862) and Yemen (USD917). GDP real growth ranges widely: Iraq revived from years of wars has grown at 39% in 2008 while other countries are struggling from wars and conflicts. Libya's GDP shrank 60% in 2011 due to political turmoil. Iran, Iraq, Libya and Yemen have high inflation rates of over 20% per annum in some years. During the war period Iraq experienced a 64.8% inflation rate in 2006, whereas Qatar experienced deflation of a -4.86% during the 2009. Descriptive statistics by country is provided in Appendix 4.

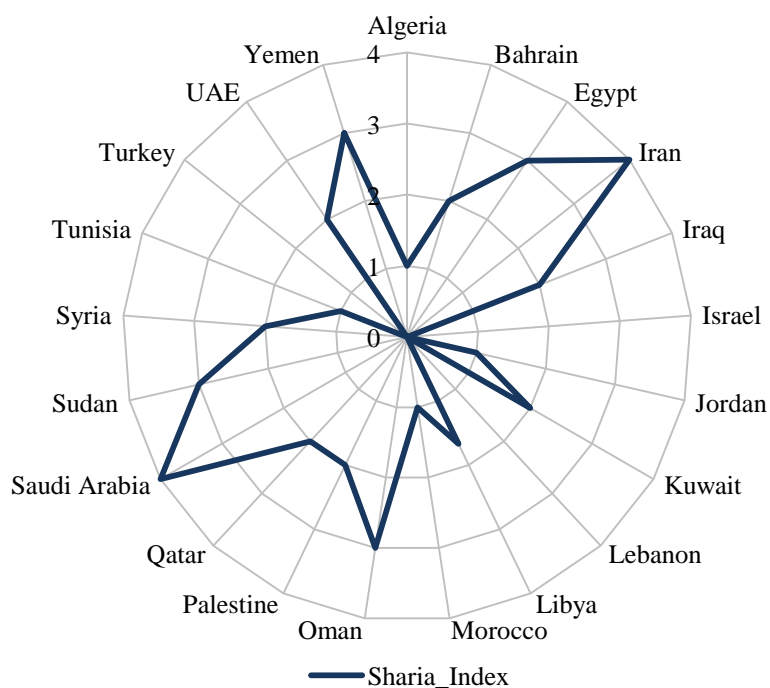
Figure 2.8 Comparative Islamic culture



Source: Thesis analysis.

The Sharia index, a proxy for the extent of duality of the legal system, ranges from zero for countries without any constitutional role of Sharia like Turkey and Israel, to four where Sharia is the constitution of the country like Saudi Arabia and Iran (Figure 2.9).

Figure 2.9 Comparative Sharia index



Source: Thesis analysis.

Table 2.8 Descriptive statistics for essay 1

	Variables	# Obs	Min	Max	Mean	Median	Standard deviation	Skewness	Kurtosis
Credit market development	Domestic credit to private sector (million USD)	121	1,195.94	429,318.33	71,768.87	30,444.44	87,546.08	1.73	2.84
	Domestic credit to population	121	66.89	35,318.54	8,533.33	2,885.98	11,150.66	1.27	0.07
	Domestic credit to private sector to GDP	121	2.48	94.42	44.15	40.89	27.47	0.13	-1.26
Stock market development	Market capitalisation (million USD)	108	90.06	515,110.77	80,743.14	43,395.12	100,112.91	1.83	3.58
	Market capitalisation to population	108	2.48	82,855.49	11,221.37	2,830.79	17,775.78	2.28	4.92
	Market capitalisation to GDP	108	0.05	240.88	49.30	37.45	42.22	1.47	3.35
Creditor protection rights	Strength of legal rights index	116	1.00	9.00	3.28	3.00	1.62	2.03	6.02
	Depth of credit information index	116	0.00	6.00	2.78	2.00	1.90	0.02	-1.17
	Private bureau coverage	116	0.00	100	10.14	0.00	22.05	2.93	8.51
	Public registry coverage	116	0.00	31.3	4.24	0.25	6.91	1.82	2.57
Shareholder protection rights	Extent of disclosure index	116	0.00	9.00	5.39	5.00	2.29	-0.65	0.51
	Extent of director liability index	116	1.00	9.00	5.03	5.00	2.01	0.26	0.01
	Ease of shareholder suits index	116	0.00	9.00	3.22	3.00	2.04	1.01	1.25
	Anti-director rights index	108	1.50	4.50	2.86	2.50	0.89	0.16	-0.86
Judicial efficiency	Time (days)	116	420	1,010	648	630	149	0.85	0.01
	Cost (% of claim)	116	13.50	32.50	23.69	25.20	5.20	-0.20	-0.85
	Procedures (number)	116	35.00	55.00	43.85	43.00	6.16	0.26	-1.25
Law enforcement	Rule of law	126	-1.92	1.01	-0.21	-0.14	0.74	-0.30	-0.89
Islamic culture	Islamic political institutions (IPI)	126	0.00	3.00	1.57	2.00	1.14	-0.08	-1.41
	Islamic financial institutions (IFI)	126	0.00	4.00	2.67	3.00	1.33	-0.87	-0.23
	Islamic educational institutions (IEI)	126	0.00	3.64	1.30	1.29	0.86	0.85	0.84
	Islamic institutionalisation index (III)	126	0.00	9.64	5.54	5.59	2.35	-0.46	-0.14
Duality of legal systems	Sharia index	126	0.00	4.00	1.89	2.00	1.17	0.04	-0.76
Macro- economic variables	GDP (million USD)	126	4,619.10	774,775.18	150,291.58	80,327.25	173,349.76	1.91	3.22
	GDP per capita (USD)	126	862.29	90,804.67	14,604.45	5,385.73	18,559.58	2.02	4.04
	GDP real growth	126	-60.41	38.78	6.61	8.73	14.50	-1.22	3.29
	Population (million)	126	0.95	79.39	22.54	10.38	23.81	1.22	0.33
	Rate of inflation	126	-4.86	64.82	7.27	5.14	7.63	3.85	25.41

Source: Thesis analysis.

Panel A of Table 2.9 reports Pearson correlation matrix for credit market development. Creditor protection indices, the strength of legal rights and the depth of credit information are positively correlated with the credit market development variables as predicted by the model specification in Table 2.7. Among the information dissemination variables, only private bureau coverage is positively associated with the credit market development variables as predicted. However, public registry coverage is only positively correlated with the domestic credit to private sector when measured by level. Among the judicial efficiency indicators, cost is negatively correlated with the domestic credit to population and procedures are negatively associated with domestic credit in levels and as a ratio to GDP. Consistent with the model prediction, the rule of law is positively associated with credit market development. IPI is negatively correlated with credit market development and with creditor protection indices. Both IEI and III are negatively correlated with credit market development when measured in ratios. Both IFI and III are negatively correlated with the strength of legal rights index. The Sharia index is negatively associated with credit market development variables measured in ratios and negatively associated with creditor protection indices. GDP is positively correlated with credit market development and creditor protection indices while inflation is negatively correlated with credit market development variables.

The correlations of stock market development variables are reported in Panel B of Table 2.9. As predicted, the extent of disclosure index and anti-director rights index are positively associated with market capitalisation and market capitalisation to population. The extent of director liability index is positively associated with market capitalisation to population. Inconsistent with prediction, the ease of shareholder suit index is marginally negatively correlated with market capitalisation and the market capitalisation to GDP. Among the judicial efficiency variables, only procedures are negatively associated with stock market development variables. Rule of law is positively correlated with stock market development variables as expected by the model specification in Table 2.7. IPI is negatively associated with stock market development variables. IEI and III are negatively associated with stock market development when measured in ratios. GDP is positively associated with stock market development measured in levels while inflation is negatively associated with stock market development when measured in ratios. The correlations between the rest of the variables are reported in Panel C of Table 2.9.

Table 2.9 Pearson correlation matrix

Variables	Panel A						
	Domestic credit to private sector	Domestic credit to population	Domestic credit to GDP	Strength of legal rights index	Depth of credit information index	Private bureau coverage	Public registry coverage
Domestic credit to private sector	1.00						
Domestic credit to population	0.72***	1.00					
Domestic credit to GDP	0.53***	0.76***	1.00				
Strength of legal rights index	0.56***	0.44***	0.37***	1.00			
Depth of credit information index	0.70***	0.60***	0.54***	0.39***	1.00		
Private bureau coverage	0.48***	0.47***	0.45***	0.81***	0.48***	1.00	
Public registry coverage	0.21**	0.09	0.03	0.09	0.25***	-0.12	1.00
Time (days)	-0.04	-0.02	0.10	0.15	0.00	0.20**	-0.35***
Cost (% of claim)	-0.07	-0.27***	0.02	-0.17*	0.02	0.02	-0.36***
Procedures (number)	-0.23**	-0.09	-0.36***	-0.27***	-0.49***	-0.33***	-0.20**
Rule of law	0.60***	0.88***	0.71***	0.36***	0.51***	0.48***	0.04
IPI	-0.19**	-0.49***	-0.24***	-0.23**	-0.19**	-0.27***	0.09
IEI	0.08	-0.29***	-0.45***	-0.10	-0.04	-0.28***	0.23**
IFI	-0.03	-0.15	-0.25***	-0.28*	-0.03	-0.37***	0.01
III	-0.09	-0.43***	-0.42***	-0.30***	-0.12	-0.42***	0.13
Sharia index	-0.14	-0.25***	-0.50***	-0.24**	-0.22**	-0.39***	0.09
GDP	0.80***	0.29***	-0.02	0.50***	0.45***	0.35***	0.18*
GDP real growth	-0.03	0.13	-0.01	0.01	-0.09	0.00	-0.18**
Rate of inflation	-0.19**	-0.38***	-0.38***	-0.04	-0.19**	-0.18**	0.12

Table 2.9 Pearson correlation matrix

Variables	Panel B						
	Market capitalisation	Market capitalisation to population	Market capitalisation to GDP	Extent of disclosure index	Extent of director liability index	Ease of shareholder suits index	Anti-director rights index
Market capitalisation	1.00						
Market capitalisation to population	0.84***	1.00					
Market capitalisation to GDP	0.52***	0.66***	1.00				
Extent of disclosure index	0.28**	0.35**	0.12	1.00			
Extent of director liability index	0.14	0.22*	0.14	-0.16*	1.00		
Ease of shareholder suits index	-0.18*	-0.12	-0.19*	0.07	0.33**	1.00	
Anti-director rights index	0.46***	0.51***	0.09	0.30***	0.14	-0.15	1.00
Time (days)	-0.02	-0.01	0.14	-0.08	0.09	0.32***	-0.13
Cost (% of claim)	0.07	-0.10	0.19*	0.14	-0.27***	0.20**	-0.17*
Procedures (number)	-0.36***	-0.21**	-0.27***	-0.30***	0.28***	-0.27***	0.24**
Rule of law	0.59***	0.79***	0.60***	0.25***	0.36***	0.08	0.32***
IPI	-0.36***	-0.57***	-0.27***	-0.07	-0.48***	-0.20**	-0.38***
IEI	0.07	-0.23**	-0.26***	-0.25***	0.08	-0.38***	-0.05
IFI	0.09	-0.02	-0.16*	-0.21**	-0.20**	-0.33***	0.21**
III	-0.12	-0.41***	-0.32***	-0.23**	-0.30***	-0.40***	-0.12
Sharia index	0.11	0.00	-0.13	-0.20**	0.13	-0.50***	0.33***
GDP	0.49***	0.08	-0.15	0.10	0.30***	-0.02	0.31***
GDP real growth	-0.00	0.10	0.11	0.00	0.09	0.01	0.16
Rate of inflation	-0.06	-0.22**	-0.23*	-0.19*	-0.10	-0.15*	0.02

Table 2.9 Pearson correlation matrix

Variables	Panel C								
	Time (days)	Cost of claim	Procedures (number)	Rule of law	IPI	IEI	IFI	III	Sharia index
Time (days)	1.00								
Cost (% of claim)	0.19**	1.00							
Procedures (number)	0.12	-0.34***	1.00						
Rule of law	0.06	-0.29***	-0.18*	1.00					
IPI	-0.37***	0.29***	-0.18*	-0.64***	1.00				
IEI	-0.41***	-0.15	0.09	-0.44***	0.41***	1.00			
IFI	-0.37***	-0.21**	-0.01	-0.04	0.06	0.33***	1.00		
III	-0.51***	-0.02	-0.06	-0.49***	0.67***	0.75***	0.71***	1.00	
Sharia index	0.02	-0.37***	-0.39***	-0.21**	-0.25***	0.50***	0.35***	0.26***	1.00
GDP	-0.16*	-0.01	-0.07	0.16*	0.02	0.38***	0.08	0.19**	0.09
GDP real growth	0.04	0.01	0.11	0.14	-0.13	-0.11	0.03	-0.08	-0.04
Rate of inflation	-0.01	0.04	0.07	-0.39***	0.21**	0.34***	0.16*	0.32***	0.32***

Source: Thesis analysis.

Table 2.10 reports a frequency for the creditor protection indices and the shareholder protection indices by legal origin. 79.55% and 70.45% of the scores on the strength of legal rights and the depth of credit information indices range between 0 to 3 in civil law countries compared to 32% and 46% in common law countries. Only 21.59% of the scores on the disclosure index for civil law countries lie between 6 to 9 compared to 57.14% for common law countries. Similarly, 9.09% of the score for the extent of director liability in civil law countries lie between 6 to 9 compared to 42.86% for common law. In the case of the ease of shareholder suit index, no civil law country has a score higher than six, however, 21% of common law countries have a value higher than six. The anti-director rights index scores do not differ by legal origin; 73% of the sample countries on the anti-director rights index range between 0 to 3 in civil law countries compared to 60% in common law countries. Except for anti-director rights index, these results suggest that investor protection is stronger in common law countries compared to civil law countries. Fisher's exact test of independence for categorical variables yields *p*-values that are all below 5% level (Except for anti-director rights index), rejecting the null hypothesis of no association between the strength of investor protection and legal origin.⁵²

Table 2.11 reports the frequency for the Islamic culture and the hybrid legal system for the 21 MENA countries. Countries with common law legal origin have lower levels of Islamic culture than countries with French civil law legal origin. 80% of common law countries have extremely low or emerging IPI, where the scores are between 0-1 compared to only 37.5% for countries with French civil law legal origin. Moreover, 80% of the countries with common law legal origin have highly functional IFI compared to 56.25% for countries with French civil law legal origin. However, 40% of the countries with common law legal origin have functional IEI whereas 93.75% of the countries with French civil law have IEI at extremely low or emerging functionality. Overall, 80% of common law countries have less Islamic endorsement in their institutions compared with 50% for countries with French civil law legal origin. The distribution of the Sharia index is less divergent between the legal origins. Fisher's exact test of independence for categorical variables yields *p*-values that are all below 5% level, rejecting the null hypothesis of no association between both the Islamic culture/Sharia index and legal origin.

⁵² Fisher's exact test is a test of association between the row and column variables. This test assumes that the row and column totals are fixed and uses the hyper-geometric distribution to compute probabilities of possible tables conditional on the observed row and column totals. Fisher's exact test does not depend on any large-sample distribution assumptions. It is particularly appropriate when dealing with small samples (SAS Institute Inc, 2013, p. 2708).

Table 2.10 Frequency table for investor protection by legal origin

		Creditor protection				Shareholder protection							
		Strength of legal rights index by legal origin		Depth of credit information index by legal origin		Extent of disclosure index by legal origin		Extent of director liability index by legal origin		Ease of shareholder suits index by legal origin		Anti-director rights index by legal origin	
		Legal origin		Legal origin		Legal origin		Legal origin		Legal origin		Legal origin	
Range		Civil law	Common law	Civil law	Common law	Civil law	Common law	Civil law	Common law	Civil law	Common law	Civil law	Common law
≤3	Frequency	70	9	62	13	4	6	18	0	52	13	57	18
	Column %	79.55	32.14	70.45	46.43	4.55	21.43	20.45	0	59.09	46.43	73.08	60
3-6	Frequency	18	13	26	15	65	6	62	16	36	9	21	12
	Column %	20.45	46.43	29.55	53.57	73.86	21.43	70.45	57.14	40.91	32.14	26.92	40
>6	Frequency	0	6			19	16	8	12	0	6		
	Column %	0	21.43			21.59	57.14	9.09	42.86	0	21.43		
Total	Frequency	88	28	88	28	88	28	88	28	88	28	78	30
	Row %	75.86	24.14	75.86	24.14	75.86	24.14	75.86	24.14	75.86	24.14	72.22	27.78
P-value for Fisher's exact test		<0.0001		0.0249		<0.0001		<0.0001		0.0003		0.2437	

Source: Thesis analysis.

Table 2.11 Frequency table for Islamic culture and Sharia index by legal origin

	Islamic culture										Hybrid legal system		
		IPI		IFI		IEI			III			Sharia index	
		Legal origin		Legal origin		Legal origin			Legal origin			Legal origin	
	Range	Civil law	Common law	Civil law	Common law	Civil law	Common law	Range	Civil law	Common law	Range	Civil law	Common law
Frequency	≤1	6	4	2	1	7	2	≤3	2	1	≤1	7	1
Column %		37.50	80.00	12.50	20.00	43.75	40.00		12.50	20.00		43.75	20.00
Frequency	1-2	4	1	5	0	8	1	3-6	6	3	1-2	5	2
Column %		25.00	20.00	31.25	0	50.00	20.00		37.50	60.00		31.25	40.00
Frequency	2-3	6	0	4	2	0	2	6-9	7	1	2-3	3	1
Column %		37.50	0	25.00	40.00	0	40.00		43.75	20.00		18.75	20.00
Frequency	>3	0	0	5	2	1	0	>9	1	0	>3	1	1
Column %			0	31.25	40.00	6.25	0		6.25	0		6.25	20.00
Frequency	Total	16	5	16	5	16	5	Total	16	5	Total	16	5
Row %		76.19	23.81	76.19	23.81	76.19	23.81		76.19	23.81		76.19	23.81
P-value for Fisher’s exact test		<.0001		0.0007		<.0001			0.0294			0.0466	

Source: Thesis analysis.

Table 2.12 compares the differences in the characteristics of countries with French civil law legal origin against those with English common law legal origin using t-test and Wilcoxon test.⁵³ Panel A shows that the mean (median) of the credit market variables for countries with English common law legal origin are significantly higher than countries with French civil law legal origin. Countries with English common law legal origin offer better protection for creditors as measured by the strength of legal rights and the depth of credit information. Private bureau coverage is dominant form of information dissemination in countries with English common law legal origin while public registry coverage is dominant in countries with French civil law legal origin.

Panel B reveals that the mean (median) of the stock market capitalisation for countries with English common law legal origin is significantly higher than the mean (median) for countries with French civil law legal origin. Countries with English common law legal origin offer better protection for shareholders as measures by the director liability and ease of shareholder suit indices. There are no significant differences between the countries in terms of disclosure index. The mean of the anti-director rights index is higher in common law countries compared to French civil law countries.

In the case of judicial efficiency, Panel C indicates that countries with French civil law legal origin require less time to resolve a commercial dispute and incur higher claim costs than countries with English common law legal origin. There are no significant statistical differences in the mean procedures number. Hence, the dominance of British common law is not evident with respect to judicial efficiency. The rule of law, however, is stronger in countries with common law legal origin.

The Islamic culture is stronger in countries with French civil law legal origin when measured in IPI and the overall III. This implies that countries with French law legal origin have an active presence of Islamic political parties compared to countries with common law legal origin. However, there are no significant differences between the two legal origins in terms of IEI and IFI. Additionally, there are no significant differences in mean (median) of Sharia index between the two legal origins (Panel D).

The univariate analysis highlights the existence of meaningful variation in financial market development, legal rules and culture across MENA countries and the bivariate analysis indicates

⁵³ The Wilcoxon test is valid for data from any distribution and is much less sensitive to outliers than the two-sample t-test. Exact p-values are used for Wilcoxon test which is appropriate when a data set is small, sparse, skewed, or heavily clustered around the mean.

the presence of meaningful associations and patterns among the variables that warrant the multivariate regression analysis.

Table 2.12 Testing the equality of mean and median for legal origin

Panel A: Mean/median differences for credit market by legal origin							
	Domestic credit (million USD)	Domestic credit to population	Domestic credit to GDP	Strength of legal rights index	Depth of credit information index	Private bureau coverage†	Public registry coverage†
Mean	53,384.85	6,337.71	40.32	2.79	2.56	4.35	5.28^{***}
	127,533.73^{***}	15,193.39^{***}	55.78^{***}	4.79^{***}	3.46^{**}	28.34^{***}	0.97
Median	27,888.52	1,880.11	36.48	3.00	2.00	0.00	1.35^{***}
	172,571.19^{***}	15,808.03^{***}	63.24^{***}	4.00^{***}	5.00^{**}	15.10^{***}	0.00
Panel B: Mean/median differences for stock market by legal origin							
	Market capitalisation (million USD)	Market capitalisation to population	Market capitalisation to GDP	Extent of disclosure index	Extent of director liability index	Ease of shareholder suits index	Anti- director rights index
Mean	59,410.04	10,079.06	46.85	5.48	4.51	2.89	2.77
	136,209.21^{***}	14,191.38	55.69	5.11	6.68^{***}	4.25^{**}	3.10[*]
Median	31,364.62	1,943.94	34.22	5.00	4.00	2.00	2.50
	104,083.32^{***}	13,233.57^{***}	54.53^{**}	7.00	6.00^{***}	4.00^{**}	2.50
Panel C: Mean/median differences for judicial efficiency, law enforcement and macro-economic variables by legal origin							
	Time (days)†	Cost (% of claim)†	Procedures number†	Rule of law	GDP (million USD)	GDP real growth	Rate of inflation
Mean	630.13	24.28^{**}	43.31	-0.32	131,433.43	6.5198	7.66
	706.14^{**}	21.84	45.57[*]	0.13^{***}	210,637.63^{**}	6.886	6.04
Median	598	25.20^{**}	42.00	-0.32	70,887.60	7.80	5.99[*]
	635.00^{***}	19.8	48.00[*]	0.38^{***}	209,458.42^{**}	11.73	3.96
Panel D: Mean/median differences for Islamic culture and Sharia index by legal origin							
	IPI	IEI†	IFI	III†	Sharia index		
Mean	1.88^{***}	1.32	2.63	5.82^{**}	1.79		
	0.60	1.26	2.80	4.66	2.20[*]		
Median	2.00^{***}	1.31	3.00	6.06^{**}	2.00		
	0.00	1.20	3.00	5.20	2.00^{**}		

Source: Thesis analysis.

† Computation of exact tests was infeasible (require a large amount of time and memory). Monte Carlo estimation of exact p-values is used instead.

2.5.2. Multivariate analysis

Table 2.13 reports the results of the legal origin on financial market development. The coefficients on legal origin are all consistently positive and statistically significant from zero at the 1% level for credit and stock market development regressions. Consistent with the ‘Law and Finance’ literature, results indicate that MENA countries with common law legal origin operate more developed credit and stock markets. This finding is consistent with the historical narrative that contract enforcement and private property rights are better protected under common law, thus promoting financial development (La Porta et al., 1997; Claessens and Laeven, 2003). The effect of legal origin on financial market development is statistically significant and economically large. The estimated coefficient on legal origin in Regression 1 implies that the expected percent increase in geometric mean of domestic credit from common law countries to civil law countries is 39.0%, holding other variables constant.⁵⁴ The coefficient on legal origin in Regression 2 shows that the expected percent increase in the geometric mean of domestic credit per capita from common law countries to civil law countries is 153.3%, holding other variables constant. The coefficient on legal origin in Regression 3 shows that there is a 13.2 percentage point mean difference in domestic credit to GDP between countries with common law legal origin and those with civil law legal origin. Similarly, the expected percent increase in geometric mean of market capitalisation from common law countries to civil law countries is 88.6%. The expected percent increase in geometric mean of market capitalisation per capita from common law countries to civil law countries is 227.1%. Finally, market capitalisation to GDP for countries with common law legal origin is 7.6 percentage point higher than those countries with civil law legal origin.

⁵⁴ Domestic credit, domestic credit to population, market capitalisation and market capitalisation to population are measured in natural logarithm. Hence, the interpretation is performed on the exponential regression coefficients. For example, $e^{0.3290}=1.3896$.

Table 2.13 OLS results for financial market development and legal origin

Dependent variable	Reg	Legal origin	Rate of inflation	GDP	GDP growth	Constant	N×T R ²
<i>Credit Market</i>							
Domestic credit	(1)	0.3290*** (0.05)	-0.0495*** (0.01)	1.0247*** (0.01)		-1.3553*** (0.29)	121 71.65%
Domestic credit to population	(2)	0.9296*** (0.08)	-0.0938*** (0.03)	0.4366*** (0.02)		-2.6888*** (0.57)	121 30.16%
Domestic credit GDP	(3)	13.1739*** (2.64)	-1.3826*** (0.38)		-0.1851 (0.19)	52.2294*** (3.53)	121 19.67%
<i>Stock Market</i>							
Market capitalisation	(4)	0.6344*** (0.08)	-0.0285*** (0.01)	0.8088*** (0.04)		3.5637*** (0.97)	108 27.32%
Market capitalisation to population	(5)	1.1850*** (0.11)	-0.0693*** (0.02)	0.1581*** (0.05)		3.8598*** (1.06)	108 10.99%
Market capitalisation to GDP	(6)	7.6433*** (1.52)	-1.1478*** (0.17)		0.2363 (0.24)	53.3459*** (4.05)	108 6.38%

Source: Thesis analysis.

The results of tests investigating the relationship between creditor protection and credit market development are presented in Table 2.14. Creditor rights are considered in terms of the legal rights in bankruptcy and in terms of information sharing about borrowers. The relationship between credit market development and the strength of legal rights is presented in Regressions 1-3 of Table 2.14. The coefficients on the strength of legal rights are positive and statistically significant from zero at 1% level implying that countries in which bankruptcy and collateral laws protecting the rights of both borrowers and creditors have deeper credit markets. The finding is consistent with the power hypothesis of Djankov et al. (2007) where lenders extend credit if they can easily force repayment, grab collateral or gain control of the firm. The estimated coefficients imply that a two standard deviation increase in the strength of legal rights index is associated with USD21.1 billion increase in domestic credit to private sector, a USD5,242 increase in the domestic credit per capita and a 19.3 percentage point increase in domestic credit to GDP.

Regressions 4-6 of Table 2.14 report the relationship between credit market development and the depth of credit information. The coefficients on the depth of credit information are all positive and statistically significant at 1% level. The finding indicates that the availability of credit information about borrowers from either a public credit registry or a private credit bureau positively affects the MENA banks' ability to satisfy the demand for private sector borrowing. This finding is consistent with the information hypothesis of Djankov et al. (2007) which suggests that when lenders know more about borrowers, their credit history or their other lenders, they extend more credit. It is worth noting that banks are the principal source of financing in the MENA (Koldertsova, 2011, p. 2). The estimated coefficients imply that a two standard deviation increase in the depth of credit information index is associated with USD62.0 billion increase in domestic credit to private sector, a USD10,692 increase in the domestic credit per capita and a 26.8 percentage point increase in domestic credit to GDP.

Information sharing is critical for bank lending to reduce the risk via screening potential borrowers. The relationship between credit market development and public credit registry coverage is revealed in Regressions 7, 8 and 9 whereas the relationship between credit market development and private credit bureau coverage is presented in Regressions 10, 11 and 12 of Table 2.14. The coefficients on the information sharing through public credit registry database and private credit bureau are both positive and statistically significant at 1% level. These results are contrary to Djankov et al (2007) where both private and public credit registries were insignificant. Five MENA countries only (Iran, Egypt, Turkey, UAE and Saudi Arabia) report coverage through both public credit registry and private credit bureau and around 20% of the observations do not have either institution. The estimated coefficients on the private credit

bureau coverage imply that a two standard deviation increase in the private credit bureau coverage is associated with USD21.1 billion increase in domestic credit to private sector, a USD5,075 increase in the domestic credit per capita and a 21.4 percentage point increase in domestic credit to GDP. However, the estimated coefficients on the public credit registry coverage imply that a two standard deviation increase in the public credit registry coverage is associated with USD10.2 billion increase in domestic credit to private sector, a USD758 increase in the domestic credit per capita and a 3.5 percentage point increase in domestic credit to GDP.

When the creditor protection and information sharing variables are combined, (Regressions 13, 14 and 15 of Table 2.14) the coefficients on both strength of legal rights and depth of credit information are positive and statistically significant from zero indicating that creditor rights determine the banks' willingness to extend credit. This is consistent with the literature (La Porta et al, 1997; Djankov et al., 2007) and with the model predictions. The coverage ratios however lose their significance indicating that the practices used in collecting data on borrowers by the private bureau and public registry as depicted in the depth of credit information index is more important than the percentage of the adult population covered.

Results investigating the relationship between shareholder protection and stock market development are presented in Table 2.15. Shareholder protection rights are captured through the regulation of corporate self-dealing transactions along four dimensions: disclosure; director liability; facilitation of litigation when self-dealing arises; and, anti-director rights. The extensive disclosure procedures and approval for self-dealing transactions discourage managers or major shareholders to act in their own interest and thus the extent of disclosure index is expected to positively affect equity investments. Regressions 1-3 of Table 2.15 report positive and statistically significant coefficients at 1% level on the extent of disclosure index. Results are consistent with La Porta et al (2006) and Djankov, La Porta, et al. (2008, p. 445) where ex-ante private control and its sub-indices, approval by disinterested shareholder and ex-ante disclosure are positively associated with stock market capitalisation to GDP. The estimated coefficients imply that a two standard deviation increase in the extent of disclosure index is associated with a USD25.9 billion increase in market capitalisation, a USD5,470 increase in the market capitalisation per capita and a 6.1 percentage point increase in market capitalisation to GDP. These results suggest that firms operating in countries with high disclosure requirements are valued higher by investors. The more the disclosure the lower the monitoring costs for investors and thus the lower the required rate of return, which translates into lower cost of equity capital for these firms.

When shareholders can protect themselves from abuse or oppression by the majority using legal means, it is expected to increase investors' willingness to supply equity capital. Regressions 4-6 of Table 2.15 report conflicting results on the impact of director liability index on stock market development. The coefficient on the director liability index is negative and significant at 1% level when the stock market development is measured in levels. However, it is positive and statistically significant at 1% level when the market development is measured as a ratio to population and GDP. The findings relate to Djankov, La Porta, et al. (2008, p.445) finding that ex-post private control has a positive and significant impact on stock market capitalisation to GDP. Djankov, La Porta, et al. (2008, p.452) also find that the public enforcement and government's power to impose fines and prison terms for self-dealing transactions (which is a sub-category of director liability index) does not benefit stock market development. The estimated coefficients imply that a two standard deviation increase in the director liability index is associated with a USD1.3 billion decrease in market capitalisation, a USD2,259 increase in market capitalisation per capita and a 9.3 percentage point increase in market capitalisation to GDP.

The 'Law and Finance' theory, which focuses on the supply side of the market, suggests that investors provide capital to firms if it is easy for shareholders to litigate when self-dealing arises. Regressions 7-9 of Table 2.15 report a negative and significant relationship between stock market development and the ease of shareholder suits at 1% level. This curious result suggests that the ease of shareholder suits deters stock market development and is inconsistent with the 'Law and Finance' theory prediction and with Djankov, La Porta, et al. (2008, 445) that finds this factor only has marginal positive impact on stock market development. The negative association between the ease of shareholder suits and stock market development relates to Bruno and Claessens (2010, p. 463) argument that too stringent legal investor protection generates costs and harm managerial initiative and thus lead to lower returns and valuations. The estimated coefficients imply that a two standard deviation increase in ease of shareholder suits index is associated with a USD10.4 billion decrease in market capitalisation, a USD956 decrease in market capitalisation per capita and an 18.1 percentage point decrease in market capitalisation to GDP. The negative association may provide insights into the demand side of the stock market. If it is relatively easy for shareholders to initiate legal suits against directors, this may discourage firms from raising equity capital, which also deters stock market development.⁵⁵

⁵⁵ Cho, El Ghoul, Guedhami, and Suh (2014) find that strong creditor rights are associated with low long-term leverage across countries. The same rationale applies to stock market, strong shareholder protection when measured with the ease of shareholder suit may discourage firms from raising equity capital.

The classic ‘Law and Finance’ measure of shareholder protection reflected in the anti-director rights index is tested and results are presented in Regressions 10-12 of Table 2.15. A positive and significant relationship between stock market development and the degree of investor protection provided by the national statutory law against expropriation by managers or major shareholders is seen. This result is consistent with the Djankov, La Porta, et al. (2008) and La Porta et al. (1997, p. 1141). The estimated coefficients imply that a two standard deviation increase in the anti-director rights index is associated with a USD67.6 billion increase in market capitalisation, a USD26,281 increase in market capitalisation per capita and a 7.15 percentage point increase in market capitalisation to GDP.

Regressions 13-15 of Table 2.15 report the regression results when all four indices for shareholder protection are included. The coefficients on both the extent of disclosure and the extent of director liability indices are positive and statistically significant at 1% level. The coefficients on the ease of shareholder suit are negative and statistically significant at 1% level. The coefficients on the anti-director rights index are positive and statistically significant at 1% level when the stock market development is measured in levels and as a ratio to population and marginally negative when stock market development is measured relative to GDP. Overall, the signs of the coefficients on the disclosure, director liability, and anti-director rights indices are consistent with the ‘Law and Finance’ theory; however, the sign of the coefficient on the ease of shareholder suit is contradictory to the theory's prediction.

The regression results for investor protection rights suggest that the individual influences of investor protection indices contribute to our understanding to financial market development. Each index proxies for distinct elements of investor protection that capture how legal framework impacts upon the size of the financial market. No effect of investor protection is subsumed by another which suggests that MENA countries proposing to establish and expand their financial markets could actively encourage a broad-brush approach to support the legal environment. Furthermore, the relationship between the legal rules protecting investors is stronger for MENA credit markets than for stock markets. This is evident by the coefficient of determination R-squared values in Table 2.14 and Table 2.15. This finding reinforces the view that credit markets, in particular banks, are more important source of financing for MENA firms than stock markets. MENA firms typically raise equity capital through family groups and social ties thus legal protection of creditors is more important than improving other aspects of the legal environment since any substantial growth in external finance is likely to be via debt financing rather than equity.

Table 2.14 OLS results for credit market development and creditor protection

Dependent variable	Reg	Strength of legal rights	Depth of credit information	Private bureau coverage	Public registry coverage	Rate of inflation	GDP	GDP growth	Constant	N×T R ²
Domestic credit	(1)	0.1625*** (0.01)				-0.0486*** (0.01)	0.9471*** (0.02)		0.1505 (0.50)	114 75.19%
Domestic credit to population	(2)	0.3625*** (0.01)				-0.0960*** (0.03)	0.3050*** (0.04)		-0.3958 (1.35)	114 37.07%
Domestic credit to GDP	(3)	5.9750*** (0.58)				-1.3622*** (0.38)		-0.1552 (0.19)	35.7341*** (4.45)	114 27.27%
Domestic credit	(4)		0.2918*** (0.01)			-0.0345*** (0.01)	0.8417*** (0.01)		2.4249*** (0.27)	114 83.03%
Domestic credit to population	(5)		0.4506*** (0.08)			-0.0764** (0.03)	0.2192*** (0.04)		1.5605** (0.65)	114 45.96%
Domestic credit to GDP	(6)		7.0481*** (0.51)			-1.0215** (0.38)		-0.0098 (0.16)	32.3308*** (2.65)	114 37.37%
Domestic credit	(10)			0.0119*** (0.00)		-0.0441*** (0.01)	0.9783*** (0.03)		-0.2513 (0.79)	114 75.56%
Domestic credit to population	(11)			0.0260*** (0.00)		-0.0865*** (0.03)	0.3785*** (0.06)		-1.3821 (1.70)	114 37.94%
Domestic credit to GDP	(12)			0.4844*** (0.03)		-1.1489*** (0.36)		-0.1255 (0.17)	48.8147*** (2.75)	114 29.91%
Domestic credit	(7)				0.0208*** (0.00)	-0.0534*** (0.01)	1.0387*** (0.02)		-1.6708*** (0.53)	114 73.86%
Domestic credit to population	(8)				0.0202*** (0.00)	-0.1044*** (0.03)	0.5352*** (0.05)		-5.0189*** (1.40)	114 30.05%
Domestic credit to GDP	(9)				0.2554*** (0.07)	-1.4372*** (0.41)		-0.1374 (0.17)	54.8657*** (2.73)	114 15.52%
Domestic credit	(13)	0.1444*** (0.04)	0.2823*** (0.02)	-0.0035 (0.00)	0.0035 (0.00)	-0.0350*** (0.01)	0.7696*** (0.01)		3.8131*** (0.29)	114 84.06%
Domestic credit to population	(14)	0.2967*** (0.07)	0.4179*** (0.10)	-0.0018 (0.01)	-0.0037 (0.01)	-0.0737** (0.03)	0.0549* (0.03)		4.8221*** (0.56)	114 50.28%
Domestic credit to GDP	(15)	2.0496* (1.08)	5.7894*** (0.57)	0.1321 (0.08)	-0.1411 (0.15)	-0.9892** (0.35)		-0.0381 (0.16)	28.2717*** (4.41)	114 41.37%

Source: Thesis analysis.

Table 2.15 OLS results for stock market development and shareholder protection

Dependent variable	Reg	Extent of disclosure index	Extent of director liability	Ease of shareholder suits	Anti-director rights index	Rate of inflation	GDP	GDP growth	Constant	N×T R ²
Market cap	(1)	0.1679*** (0.02)				-0.0222** (0.01)	0.8304*** (0.02)		2.2099*** (0.49)	104 30.47%
Market cap to population	(2)	0.2932*** (0.01)				-0.0606*** (0.01)	0.2156*** (0.02)		1.0039* (0.56)	104 16.23%
Market cap to GDP	(3)	1.3301*** (0.43)				-1.1382*** (0.14)		0.1130 (0.18)	47.3346*** (4.05)	104 6.29%
Market cap	(4)		-0.0148*** (0.00)			-0.0345*** (0.01)	0.8928*** (0.02)		1.6808*** (0.47)	104 26.83%
Market cap to population	(5)		0.1986*** (0.02)			-0.0749*** (0.02)	0.2081*** (0.03)		1.8336*** (0.62)	104 10.99%
Market cap to GDP	(6)		2.3021*** (0.64)			-1.1835*** (0.14)		0.0828 (0.16)	43.1876*** (1.95)	104 7.08%
Market cap	(7)			-0.1553*** (0.01)		-0.0395*** (0.00)	0.8680*** (0.02)		2.7884*** (0.61)	104 29.33%
Market cap to population	(8)			-0.1735*** (0.02)		-0.0874*** (0.02)	0.2921*** (0.02)		1.3904** (0.51)	104 10.50%
Market cap to GDP	(9)			-4.4226*** (0.70)		-1.3999*** (0.16)		0.0804 (0.16)	71.2649*** (6.67)	104 10.68%
Market cap	(10)				0.7601*** (0.03)	-0.0300*** (0.01)	0.6750*** (0.01)		4.9549*** (0.35)	108 35.65%
Market cap to population	(11)				1.4385*** (0.08)	-0.0720*** (0.01)	-0.0963*** (0.01)		6.5150*** (0.24)	108 31.38%
Market cap to GDP	(12)				4.0106*** (0.53)	-1.2055*** (0.11)		0.1796 (0.24)	44.8138*** (4.91)	108 6.41%
Market cap	(13)	0.1406*** (0.03)	0.0731*** (0.02)	-0.1605*** (0.01)	0.5652*** (0.06)	-0.0249* (0.01)	0.6288*** (0.01)		6.0476*** (0.52)	104 38.84%
Market cap to population	(14)	0.2920*** (0.03)	0.3588*** (0.02)	-0.2635*** (0.03)	0.9856*** (0.06)	-0.0542*** (0.01)	-0.2694*** (0.01)		9.5133*** (0.18)	104 39.14%
Market cap to GDP	(15)	3.2501*** (0.22)	5.3918*** (0.79)	-6.7363*** (0.82)	-6.2407* (2.98)	-1.1566*** (0.16)	0.0840 (0.19)		50.1262*** (11.32)	104 17.62%

Source: Thesis analysis.

The value of the legal protection conferred in private contracts depends on the extent to which they are enforced within the public domain. Table 2.16 presents the results for the effect of law enforcement on financial market development. Regressions 1-3 for credit market and Regressions 7-9 for stock market report a positive and significant association between the rule of law and both credit and stock market development variables at 1% level. The estimated coefficients on the credit market imply that a two standard deviation increase in the rule of law is associated with a USD86.7 billion increase in domestic credit to private sector, a USD45,846 increase in domestic credit per capita and 36.3 percentage point increase in domestic credit to GDP. Similarly, the estimated coefficients on the stock market imply that a two standard deviation increase in rule of law is associated with a USD202.5 billion increase in market capitalisation, a USD91,269 increase in market capitalisation per capita and 50.8 percentage point increase in market capitalisation to GDP. When the legal origin and the rule of law are both included in regressions (Regressions 4-6 for credit market and Regressions 10-12 for stock market), the rule of law maintains its effect, sign and significance level in all cases. Legal origin, however, loses significance when the financial development is measured in levels. However, when the financial development is measured as a percentage to population, the coefficients on legal origin are positive and statistically significant at 1% level yet the size of the coefficients are less than what has been reported in Table 2.13. This finding suggests that current legal enforcement is more relevant than historically based legal origin for financial market development.

The quality of institutions is a necessary element for financial market development. One important institution in the legal system is the judiciary and its efficiency in dispute resolution. Table 2.17 and Table 2.18 address the impact of the judicial system efficiency on financial market development. Prior literature predicts a positive association between judicial efficiency and financial market development (Djankov et al., 2007). Three indicators are used to measure the judicial efficiency: time; cost; and, the number of procedures to resolve a commercial dispute. The three indicators of judicial efficiency are expected to be negatively associated with financial market development.

The results for credit market show that the coefficients on time in Regressions 1-3 in Table 2.17 are positive and statistically significant at 1% level when the credit market development is measured in levels and as a ratio to GDP, but is insignificant when measured against domestic credit to population. This is inconsistent with Djankov et al. (2007, p. 313-314) and Djankov, Hart, et al. (2008, p. 1145) where the contract enforcement days is found negatively associated with domestic credit to GDP for the whole sample and for the sub-sample of rich countries but is

insignificant for the sub-sample of poor countries. The estimated coefficients imply that a two standard deviation increase in time is associated with a USD9.3 billion increase in domestic credit to private sector and a 5.3 percentage point increase in domestic credit to GDP. The result shows that the duration to resolve commercial disputes does not influence credit market development.

The coefficients on the cost in Regressions 4 and 5 are negative and statistically significant at 10% and 1% levels for the domestic credit in levels and domestic credit to population respectively. The cost coefficient is statistically insignificant in Regression 6 for domestic credit to GDP. The estimated coefficients imply that a two standard deviation increase in cost is associated with a USD4.9 billion decrease in domestic credit to private sector and a USD1,407 decrease in domestic credit per capita. This result conforms to the notion that lower costs in resolving commercial disputes have positive impact on credit market development. Unlike equity holders, creditors facing a commercial dispute cannot cash out easily and hence the cost efficiency of the judiciary system is an important factor to promote credit financing.

The coefficients on the number of procedures in Regressions 7-9 are negative and statistically significant from zero. The estimated coefficients imply that a two standard deviation increase in the number of procedures is associated with a USD11.6 billion decrease in domestic credit to private sector, a USD227 decrease in domestic credit per capita and an 18.5 percentage point decrease in domestic credit to GDP. This result conforms to the notion that countries where the judiciary requires less number of procedures to resolve a conflict operate more developed credit markets.

When all three variables of the judicial efficiency are included (Regressions 10-12), time is positively associated with credit market development while both cost and procedures are negatively associated with credit market development.

The judicial efficiency effect on stock market is reported in Table 2.18. These results show that the coefficients on time are positive and statistically significant at 1% level for the market capitalisation in levels and as a ratio to GDP (Regressions 1 and 3) and statistically insignificant for the market capitalisation to population (Regression 2). Similar to credit market results, the result for the stock market does not conform to the notion that shorter time to resolve commercial disputes has positive impact on stock market development. The estimated coefficients imply that a two standard deviation increase in time is associated with a USD8.3 billion increase in market capitalisation and a 12.8 percentage point increase in market capitalisation to GDP.

The results of the coefficients on cost are inconsistent across the dependent variable measures. Cost is not associated with market capitalisation in levels (Regression 4), negatively associated with market capitalisation to population (Regression 5) and positively associated with market capitalisation to GDP (Regression 6). The estimated coefficients imply that a two standard deviation increase in the cost is associated with a USD700 decrease in market capitalisation per capita and a 15.8 percentage point increase in market capitalisation to GDP.

Procedures are negatively associated with stock market development (Regressions 7-9). The estimated coefficients imply that a two standard deviation increase in the number of procedures is associated with a USD15.7 billion decrease in market capitalisation, a USD1,076 decrease in market capitalisation per capita and a 23.1 percentage point decrease in market capitalisation to GDP. Consequently, countries where the judiciary advocates a streamlined resolution process operate more developed stock markets.

When all three variables of the judicial efficiency are included (Regressions 10-12), time is positively associated with market capitalisation and market capitalisation to GDP. Cost is negatively associated with market capitalisation in levels and as a ratio to population whereas it is not associated with market capitalisation to GDP while procedures are negatively associated with stock market development.

Overall, the judicial efficiency results show that more developed financial markets are associated with lower cost of claim and lower number of procedures to resolve a commercial dispute, which are predicted by the theory. However, time is positively associated with both credit and stock market development implying more developed financial markets are associated with legal procedures that take longer time to resolve commercial disputes. Despite that this result is inconsistent with the prediction of the 'Law and Finance' theory, developed financial markets are more complex and characterised by large number of firms and investors that require more professional assistance and time to resolve disputes.

Table 2.16 OLS results for financial market development and law enforcement

Dependent variable	Reg	Rule of law	Legal origin	Rate of inflation	GDP	GDP growth	Constant	N×T R ²
<i>Credit Market</i>								
Domestic credit	(1)	0.9304*** (0.03)		-0.0138*** (0.00)	0.9397*** (0.01)		0.7784*** (0.14)	121 88.08%
Domestic credit to population	(2)	2.0295*** (0.08)		-0.0173 (0.02)	0.2682*** (0.01)		1.6008*** (0.18)	121 80.91%
Domestic credit to GDP	(3)	24.6307*** (1.76)		-0.5046* (0.25)		-0.2173 (0.20)	53.9399*** (2.45)	121 52.51%
Domestic credit	(4)	0.9251*** (0.03)	0.0432 (0.03)	-0.0138*** (0.00)	0.9369*** (0.00)		0.8372*** (0.12)	121 88.09%
Domestic credit to population	(5)	1.9904*** (0.08)	0.3147*** (0.05)	-0.0169 (0.02)	0.2477*** (0.01)		2.0288*** (0.20)	121 81.43%
Domestic credit to GDP	(6)	23.9804*** (1.59)	4.4147** (1.83)	-0.5048* (0.25)		-0.2105 (0.21)	52.6766*** (2.85)	121 52.97%
<i>Stock Market</i>								
Market capitalisation	(7)	1.6353*** (0.06)		0.0297** (0.01)	0.7246*** (0.04)		5.6276*** (1.05)	108 55.56%
Market capitalisation to population	(8)	2.7327*** (0.12)		0.0274*** (0.01)	0.0259 (0.05)		7.1326*** (1.27)	108 63.59%
Market capitalisation to GDP	(9)	34.4536*** (4.65)		0.0552 (0.23)		0.2039 (0.25)	50.8437*** (4.51)	108 36.58%
Market capitalisation	(10)	1.6106*** (0.06)	0.2292* (0.13)	0.0300*** (0.01)	0.7108*** (0.05)		5.9063*** (1.21)	108 55.81%
Market capitalisation to population	(11)	2.6776*** (0.11)	0.5114*** (0.16)	0.0281*** (0.01)	-0.0047 (0.06)		7.7543*** (1.49)	108 64.42%
Market capitalisation to GDP	(12)	34.7134*** (4.51)	-2.1267* (1.14)	0.0550 (0.23)		0.2008 (0.26)	51.4853*** (4.25)	108 36.63%

Source: Thesis analysis.

Table 2.17 OLS results for credit market development and judicial efficiency

Dependent variable	Reg	Time	Cost of claim	Procedures	Rate of inflation	GDP	GDP growth	Constant	N×T R ²
Domestic credit	(1)	0.0009*** (0.00)			-0.0515*** (0.01)	1.0772*** (0.02)		-3.1552*** (0.63)	114 73.8%
Domestic credit to population	(2)	0.0004 (0.00)			-0.1025*** (0.03)	0.5627*** (0.04)		-5.8853*** (1.03)	114 29.6%
Domestic credit to GDP	(3)	0.0178*** (0.00)			-1.4185*** (0.41)		-0.1704 (0.17)	44.6042*** (2.33)	114 16.0%
Domestic credit	(4)		-0.0172* (0.01)		-0.0510*** (0.01)	1.0588*** (0.02)		-1.7016*** (0.34)	114 73.3%
Domestic credit to population	(5)		-0.0887*** (0.01)		-0.1001*** (0.03)	0.5532*** (0.03)		-3.3223*** (1.06)	114 35.9%
Domestic credit to GDP	(6)		0.2049 (0.35)		-1.4246*** (0.39)		-0.1628 (0.17)	51.2120*** (6.97)	114 15.3%
Domestic credit	(7)			-0.0390*** (0.00)	-0.0491*** (0.01)	1.0451*** (0.02)		-0.0709 (0.46)	114 75.4%
Domestic credit to population	(8)			-0.0102* (0.01)	-0.1019*** (0.03)	0.5514*** (0.05)		-4.9139*** (1.37)	114 29.6%
Domestic credit to GDP	(9)			-1.4998*** (0.08)	-1.2948** (0.48)		-0.0560 (0.11)	119.8676*** (5.69)	114 25.7%
Domestic credit	(10)	0.0014*** (0.00)	-0.0502*** (0.01)	-0.0583*** (0.00)	-0.0466** (0.02)	1.0640*** (0.02)		0.5729 (0.40)	114 78.8%
Domestic credit to population	(11)	0.0012* (0.00)	-0.1184*** (0.02)	-0.0524*** (0.01)	-0.0961** (0.04)	0.5579*** (0.03)		-1.2788 (1.16)	114 38.9%
Domestic credit to GDP	(12)	0.0273*** (0.00)	-0.7567** (0.34)	-1.8111*** (0.13)	-1.2459** (0.56)		-0.0409 (0.11)	133.2386*** (12.18)	114 28.7%

Source: Thesis analysis.

Table 2.18 OLS results for stock market development and judicial efficiency

Dependent variable	Reg	Time	Cost of claim	Procedures	Rate of inflation	GDP	GDP growth	Constant	N×T R ²
Market capitalisation	(1)	0.0011*** (0.00)			-0.0350*** (0.01)	0.9124*** (0.01)		0.3863*** (0.13)	104 27.43%
Market capitalisation to population	(2)	0.0004 (0.00)			-0.0816*** (0.02)	0.3217*** (0.02)		-0.2587 (0.35)	104 8.31%
Market capitalisation to GDP	(3)	0.0427*** (0.01)			-1.2466*** (0.23)		0.0958 (0.16)	27.8196*** (2.77)	104 7.94%
Market capitalisation	(4)		0.0152 (0.01)		-0.0341*** (0.01)	0.8812*** (0.02)		1.5448*** (0.43)	104 26.96%
Market capitalisation to population	(5)		-0.0477** (0.02)		-0.0809*** (0.02)	0.3238*** (0.02)		1.0687 (0.64)	104 9.32%
Market capitalisation to GDP	(6)		1.5175** (0.67)		-1.2517*** (0.09)		0.0843 (0.17)	20.1668 (12.11)	104 9.41%
Market capitalisation	(7)			-0.1050*** (0.01)	-0.0223*** (0.01)	0.8195*** (0.02)		7.9620*** (0.72)	104 34.87%
Market capitalisation to population	(8)			-0.0716*** (0.01)	-0.0732*** (0.02)	0.2665*** (0.03)		4.4875*** (1.16)	104 10.92%
Market capitalisation to GDP	(9)			-1.8761*** (0.19)	-1.0065*** (0.28)		0.2051 (0.24)	134.7534*** (11.02)	104 11.95%
Market capitalisation	(10)	0.0008** (0.00)	-0.0552*** (0.01)	-0.1284*** (0.01)	-0.0200** (0.01)	0.8383*** (0.01)		9.2643*** (0.77)	104 36.54%
Market capitalisation to population	(11)	0.0005 (0.00)	-0.1144*** (0.03)	-0.1241*** (0.02)	-0.0669** (0.03)	0.2747*** (0.02)		8.8897*** (1.33)	104 15.53%
Market capitalisation to GDP	(12)	0.0335*** (0.01)	0.5855 (0.78)	-1.4986*** (0.26)	-1.0771*** (0.23)		0.1692 (0.20)	83.9077** (29.66)	104 13.85%

Source: Thesis analysis.

Table 2.19 and Table 2.20 report the results of the relationship between the prevailing Islamic culture in the MENA on the credit and stock market development respectively. Four variables measure the Islamic culture in the MENA: IPI, IEI, IFI and the aggregate of these three indices III.

The coefficients on IPI in Regressions 1-3 of Table 2.19 and Table 2.20 are negative and statistically significant at 1% level for all credit and stock market development. The estimated coefficients for the credit market imply that a two standard deviation increase in the IPI is associated with a USD11.3 billion decrease in domestic credit to private sector, a USD1,986 decrease in domestic credit per capita and a 9.6 percentage point decrease in domestic credit to GDP. The economic significance is larger for the stock market. The corresponding figures reveal a USD17.3 billion decrease in market capitalisation, a USD1,919 decrease in market capitalisation per capita and a 18.2 percentage point decrease in market capitalisation to GDP.

The coefficient on IFI is negative and statistically significant at 5% level for domestic credit in ratios (Regressions 5 and 6 of Table 2.19). It is insignificant for domestic credit in levels (Regression 4). The estimated coefficients for the credit market imply that a two standard deviation increase in the IFI is associated with a USD746 decrease in domestic credit per capita and an 11.0 percentage point decrease in domestic credit to GDP. However, the coefficient on IFI is positive and statistically significant at 1% level for the market capitalisation in levels and at 10% level for the market capitalisation to population (Regressions 4 and 5 of Table 2.20). It is negative and statistically significant for the stock market capitalisation to GDP (Regressions 6 of Table 2.20). The estimated coefficients for the stock market imply that a two standard deviation increase in the IFI is associated with a USD12.4 billion increase in market capitalisation, a USD286 increase in market capitalisation per capita and a 12.4 percentage point decrease in market capitalisation to GDP.

The coefficients on IEI (Regressions 7-9) of Table 2.19 and Table 2.20 are negative and statistically significant at 1% level for the credit and stock market development variables. The estimated coefficients for the credit market imply that a two standard deviation increase in the IEI is associated with a USD13.3 billion decrease in domestic credit to private sector, a USD1,841 decrease in domestic credit per capita and a 20.0 percentage point decrease in domestic credit to GDP. Similarly, the estimated coefficients for the stock market imply that a two standard deviation increase in the IEI is associated with a USD7.7 billion decrease in market capitalisation, a USD1,440 decrease in market capitalisation per capita and a 16.1 percentage point decrease in market capitalisation to GDP.

The aggregate index III is negatively associated with credit and stock market development at 1% level of significance in all the regressions (Regressions 10-12). The estimated coefficients for the credit market imply that a two standard deviation increase in the III is associated with a USD12.5 billion decrease in domestic credit to private sector, a USD2,041 decrease in domestic credit per capita and a 19.0 percentage point decrease in domestic credit to GDP. Similarly, the estimated coefficients for the stock market imply that a two standard deviation increase in the III is associated with a USD14.3 billion decrease in market capitalisation, a USD2,020 decrease in market capitalisation per capita and a 23.9 percentage point decrease in market capitalisation to GDP.

When the legal origin is included (Regressions 13-15), the coefficient on III is negative and statistically significant at 1% level. The coefficients on the legal origin are positive and significant except for the stock market capitalisation to GDP. However, the magnitude of the coefficients on legal origin is lower than what has been reported in Table 2.13.

The results add value to the literature and emphasise the significance of the influence of Islamic culture on financial markets (Stulz and Williamson, 2003; Licht et al., 2005; Branson, 2001). The prior literature finds Islam as a religion of the majority in a country has a detrimental effect in financial markets. The findings here imply that countries with active Islamic political parties operate less developed financial markets. The presence of Islamic financial institutions has negative impact on credit market development. However, the evidence is mixed for stock market development. The existence of Islamic educational institutions is negatively associated with financial market development. Overall, countries with high level of Islamic culture tend to operate less developed financial markets. The results reinforce the view that culture is a very powerful impediment to change. Islam prohibits dealing with interest, which is the core business operation of commercial banks. Further Islam discourages speculative behaviour which some Islamic scholar extend to include stock trading. The prohibition affects individual investor's behaviour, which eventually influences financial market development.⁵⁶

⁵⁶ The Islamic values are less relevant for international investors.

Table 2.19 OLS results for credit market development and Islamic culture

Dependent variable	Reg	IPI	IFI	IEI	III	Legal origin	Rate of inflation	GDP	GDP growth	Constant	N×T R ²
Domestic credit	(1)	-0.2079*** (0.03)					-0.0447*** (0.01)	1.0512*** (0.01)		-1.6492*** (0.36)	121 73.29%
Domestic credit to population	(2)	-0.6724*** (0.05)					-0.0776*** (0.03)	0.5117*** (0.02)		-3.4076*** (0.68)	121 43.17%
Domestic credit to GDP	(3)	-4.2111*** (1.17)					-1.3306*** (0.37)		-0.2385 (0.19)	62.1286*** (2.26)	121 18.39%
Domestic credit	(4)		-0.0408 (0.05)				-0.0503*** (0.01)	1.0529*** (0.01)		-1.8644*** (0.46)	121 70.89%
Domestic credit to population	(5)		-0.1296** (0.05)				-0.0956*** (0.03)	0.5170*** (0.02)		-4.1072*** (0.83)	121 26.23%
Domestic credit to GDP	(6)		-4.1331** (1.69)				-1.3341*** (0.30)		-0.2299 (0.16)	66.9552*** (6.74)	121 18.70%
Domestic credit	(7)			-0.3404*** (0.03)			-0.0390*** (0.01)	1.1418*** (0.02)		-3.8484*** (0.43)	121 73.73%
Domestic credit to population	(8)			-0.7565*** (0.07)			-0.0718*** (0.02)	0.7127*** (0.04)		-8.5709*** (0.98)	121 35.32%
Domestic credit to GDP	(9)			-11.6898*** (0.48)			-0.9947*** (0.24)		-0.2399* (0.13)	68.3952*** (2.05)	121 27.33%
Domestic credit	(10)				-0.1119*** (0.02)		-0.0403*** (0.01)	1.0861*** (0.01)		-2.2517*** (0.36)	121 73.40%
Domestic credit to population	(11)				-0.3192*** (0.01)		-0.0674*** (0.02)	0.6111*** (0.02)		-5.2306*** (0.73)	121 39.87%
Domestic credit to GDP	(12)				-4.0440*** (0.34)		-1.0553*** (0.24)		-0.2745* (0.16)	76.6669*** (3.67)	121 25.64%
Domestic credit	(13)				-0.1018*** (0.02)	0.1845** (0.07)	-0.0401*** (0.01)	1.0682*** (0.01)		-1.9045*** (0.24)	121 73.65%
Domestic credit to population	(14)				-0.2911*** (0.01)	0.5166*** (0.11)	-0.0670*** (0.02)	0.5609*** (0.01)		-4.2586*** (0.53)	121 41.20%
Domestic credit to GDP	(15)				-3.6280*** (0.39)	8.8382** (3.18)	-1.0466*** (0.26)		-0.2544 (0.17)	71.9117*** (4.91)	121 27.45%

Source: Thesis analysis.

Table 2.20 OLS results for stock market development and Islamic culture

Dependent variable	Reg	IPI	IFI	IEI	III	Legal origin	Rate of inflation	GDP	GDP growth	Constant	N×T R ²
Market cap	(1)	-0.6130*** (0.03)					-0.0120** (0.00)	0.8562*** (0.03)		3.3837*** (0.77)	108 38.60%
Market cap to population	(2)	-1.0894*** (0.06)					-0.0403*** (0.01)	0.2463*** (0.03)		3.4587*** (0.73)	108 34.73%
Market cap to GDP	(3)	-7.9756*** (1.27)					-0.9441*** (0.14)		0.1534 (0.23)	67.0859*** (6.52)	108 10.73%
Market cap	(4)		0.1668*** (0.03)				-0.0368*** (0.01)	0.8457*** (0.03)		2.3852*** (0.76)	108 26.10%
Market cap to population	(5)		0.0486* (0.03)				-0.0772*** (0.02)	0.2373*** (0.03)		2.1055** (0.82)	108 6.42%
Market cap to GDP	(6)		-4.6704*** (0.67)				-1.0393*** (0.15)		0.2362 (0.26)	68.2136*** (6.30)	108 7.01%
Market cap	(7)			-0.2370*** (0.06)			-0.0231** (0.01)	0.9157*** (0.02)		1.3167* (0.70)	108 26.23%
Market cap to population	(8)			-0.6747*** (0.11)			-0.0504*** (0.02)	0.4200*** (0.01)		-1.6612*** (0.35)	108 11.11%
Market cap to GDP	(9)			-9.4246*** (2.47)			-0.7873*** (0.10)		0.1873 (0.25)	65.8081*** (7.86)	108 9.28%
Market cap	(10)				-0.1921*** (0.02)		-0.0129 (0.01)	0.9125*** (0.03)		2.1233** (0.79)	108 29.37%
Market cap to population	(11)				-0.4369*** (0.03)		-0.0324** (0.01)	0.3762*** (0.02)		0.9478 (0.68)	108 20.43%
Market cap to GDP	(12)				-5.0911*** (0.88)		-0.6613*** (0.10)		0.1705 (0.25)	81.9603*** (9.64)	108 12.25%
Market cap	(13)				-0.1657*** (0.02)	0.3665*** (0.09)	-0.0135 (0.01)	0.8791*** (0.04)		2.7153** (0.95)	108 29.95%
Market cap to population	(14)				-0.3978*** (0.03)	0.5419*** (0.09)	-0.0333** (0.02)	0.3269*** (0.03)		1.8231** (0.84)	108 21.28%
Market cap to GDP	(15)				-5.0659*** (0.86)	0.3944 (0.95)	-0.6621*** (0.10)		0.1713 (0.25)	81.7044*** (9.43)	108 12.25%

Source: Thesis analysis.

The impact of the legal duality on financial market development is presented in Table 2.21. Sharia Index is used as a proxy for the duality of laws in MENA's legal system. The impact of the Sharia index on credit market development in Regressions 1-3 report negative and statistically significant coefficients. The estimated coefficients for the credit market imply that a two standard deviation increase in the Sharia index is associated with a USD10.7 billion decrease in domestic credit to private sector, a USD1,155 decrease in the domestic credit per capita and a 22.6 percentage point decrease in domestic credit to GDP. When the legal origin is included (Regressions 4, 5 and 6) the coefficients on the legal origin are positive and statistically significant at 1% level, the size of the coefficients however are less than what has been reported in Table 2.13. The impact of Sharia index is larger, negative and statistically significant at 1% level.

The duality of the legal system has unclear impact on stock market development (Regressions 7-9). The coefficients on Sharia index are positive and statistically significant at 1% level when the stock market development is measured in levels or as a ratio to population. However, the coefficient on Sharia index is negative and statistically significant at 1% for the market capitalisation to GDP. The estimated coefficients for the stock market imply that a two standard deviation increase in Sharia index is associated with a USD8.9 billion increase in market capitalisation, a USD749 increase in the market capitalisation per capita and a 5.7 percentage point decrease in market capitalisation to GDP. When the legal origin is included (Regressions 10-12), the coefficients on the legal origin are positive and statistically significant at 1% level and the size of the coefficients are less than what has been reported in Table 2.13. The impact of Sharia index is positive and statistically significant for the market capitalisation in level at 1% levels, insignificant for the market capitalisation to population and, negative and statistically significant at 1% levels for the market capitalisation to GDP. These results imply that the duality of the legal system creates confusion for suppliers of credit capital and this deters credit market development. The evidence is mixed for stock market development. Further, the legal origin continues to be a determinant of financial market development.

Table 2.22 and Table 2.23 reports the overall results where investor protection variables, legal origin, Islamic culture and Sharia index are collectively considered. Findings from these tables show that legal origin is a predictor of credit and stock market development. Further, Islamic culture and the duality of the legal systems in the MENA deter financial market development. The depth of credit information is the most important creditor protection factor for credit market development. Three shareholder protection indices: disclosure; director liability; and, anti-

director rights indices, positively affect stock market development whereas the ease of shareholder suit has negative effect on stock market development.

The errors of all models are tested for stationarity using Im, Pesaran, and Shin (2003) unit root test for panel data. The results indicate that the null hypothesis of non-stationarity is rejected at 1% level of significant indicating that there is a long-term relationship between the variables (co-integrated) and the regression results are not spurious (Hill, Griffiths, and Lim, 2008, p. 334) (Enders, 2004, pp. 225-228).⁵⁷

The statistical significance of the impact of the legal environment has direct economic effects. In a compact view, Table 2.24 summarises the economic significance that has been presented for the regressions earlier. Economic significance is calculated based on a two standard deviations increase in the independent variables.

Common law legal origin has a positive economic effect on both the credit and stock markets. However, particular legal rules protecting investors have profound higher economic impact on financial markets. In the case of credit market, the depth of credit information index is by far the most economically significant variable that positively affects MENA credit market development. This variable is followed by the strength of legal rights, private credit bureau coverage, and public credit registry where all variables have a direct impact on credit market development. Anti-director rights followed by the extent of disclosure index have positive economic significance on stock market development. Law enforcement is by far the most influential factor contributing to financial market development in MENA. The evidence on judicial efficiency shows that cost and procedures have negative economic consequences on financial market development. Further, Islamic culture has negative economic consequences on financial market development whereas legal duality has a negative economic consequence on credit market development but a positive economic consequence on the stock market development.

⁵⁷ Baltagi (2008, p. 1) and Greene (2012, p. 1010) argue that non-stationarity is not an issue for short panels.

Table 2.21 OLS results for financial market development and legal duality

Dependent variable	Reg	Sharia index	Legal origin	Rate of inflation	GDP	GDP growth	Constant	N×T R ²
<i>Credit Market</i>								
Domestic credit	(1)	-0.1876*** (0.04)		-0.0426*** (0.01)	1.0629*** (0.01)		-1.9320*** (0.32)	121 72.79%
Domestic credit to population	(3)	-0.2612*** (0.02)		-0.0871*** (0.03)	0.5275*** (0.02)		-4.3032*** (0.66)	121 28.11%
Domestic credit to GDP	(5)	-9.6017*** (1.20)		-0.9802*** (0.19)		-0.1822* (0.10)	70.5846*** (3.33)	121 30.94%
Domestic credit	(2)	-0.2182*** (0.04)	0.4376*** (0.05)	-0.0383*** (0.01)	1.0298*** (0.01)		-1.1806*** (0.23)	121 74.28%
Domestic credit to population	(4)	-0.3379*** (0.03)	1.0978*** (0.10)	-0.0765** (0.03)	0.4445*** (0.01)		-2.4183*** (0.45)	121 34.41%
Domestic credit to GDP	(6)	-11.0216*** (1.13)	18.8495*** (2.24)	-0.8030*** (0.19)		-0.1514 (0.11)	67.0692*** (3.57)	121 39.37%
<i>Stock Market</i>								
Market capitalisation	(7)	0.1379*** (0.02)		-0.0381*** (0.01)	0.8363*** (0.03)		2.8593*** (0.82)	108 26.00%
Market capitalisation to population	(9)	0.1288*** (0.04)		-0.0815*** (0.02)	0.2243*** (0.03)		2.3662*** (0.78)	108 6.75%
Market capitalisation to GDP	(11)	-2.4285*** (0.40)		-1.0636*** (0.14)		0.2399 (0.26)	59.3135*** (5.21)	108 6.16%
Market capitalisation	(8)	0.0927*** (0.02)	0.5854*** (0.08)	-0.0329*** (0.01)	0.8015*** (0.04)		3.6226*** (0.96)	108 27.59%
Market capitalisation to population	(10)	0.0389 (0.05)	1.1645*** (0.13)	-0.0711** (0.02)	0.1551*** (0.04)		3.8846*** (1.02)	108 11.02%
Market capitalisation to GDP	(12)	-3.2424*** (0.54)	9.5046*** (1.83)	-0.9813*** (0.15)		0.2582 (0.26)	57.4615*** (4.89)	108 7.13%

Source: Thesis analysis.

Table 2.22 OLS results for influences on credit market development

Dependent variable	Legal origin	Strength of legal rights	Depth of credit information	Public registry coverage	Private bureau coverage	III	Sharia index	Rate of inflation	GDP	GDP growth	Constant	N×T R ²
Domestic credit	0.2757*** (0.07)	0.0533 (0.07)	0.2554*** (0.02)	0.0108*** (0.00)	-0.0086 (0.00)	-0.0860*** (0.01)	-0.1715*** (0.03)	-0.0233*** (0.01)	0.8901*** (0.03)		1.8450*** (0.53)	114 86.21%
Domestic credit to population	0.6082*** (0.06)	0.0681 (0.15)	0.3683*** (0.11)	0.0131 (0.01)	-0.0098 (0.01)	-0.2421*** (0.01)	-0.1730*** (0.02)	-0.0507** (0.02)	0.3117*** (0.06)		0.6663 (0.96)	114 57.48%
Domestic credit to GDP	11.9165*** (2.75)	0.9691 (1.64)	5.8883*** (0.28)	0.1410 (0.10)	-0.2252*** (0.07)	-3.0987*** (0.12)	-9.9444*** (1.41)	-0.3321*** (0.08)		-0.0159 (0.07)	62.9222*** (6.45)	114 59.64%

Source: Thesis analysis.

Table 2.23 OLS results for influences on stock market development

Dependent variable	Legal origin	Extent of disclosure index	Extent of director liability	Ease of shareholder suits	Anti-director rights	III	Sharia index	Rate of inflation	GDP	GDP growth	Constant	N×T R ²
Market capitalisation	0.8285*** (0.21)	0.0948*** (0.03)	-0.0114 (0.03)	-0.3375*** (0.01)	0.5145*** (0.03)	-0.2065*** (0.02)	-0.2244*** (0.02)	-0.0028 (0.02)	0.7008*** (0.04)		6.8728*** (1.27)	104 45.65%
Market capitalisation to population	1.1063*** (0.22)	0.1901*** (0.03)	0.2749*** (0.03)	-0.6198*** (0.01)	1.0175*** (0.05)	-0.3532*** (0.02)	-0.6097*** (0.05)	-0.0085 (0.02)	-0.1540*** (0.03)		11.2283*** (1.01)	104 53.98%
Market capitalisation to GDP	8.8950*** (1.76)	1.0815*** (0.24)	5.1584*** (0.53)	-14.0516*** (2.13)	-3.5390 (3.37)	-7.7242*** (1.52)	-12.8616*** (0.92)	-0.1320 (0.19)		0.0381 (0.16)	139.0969*** (30.70)	104 37.69%

Source: Thesis analysis.

Table 2.24 Economic significance for influences on financial market development

		Credit market development						Stock market development					
Variables		Domestic credit to private sector		Domestic credit to population		Domestic credit to GDP		Market capitalisation (billion USD)		Market capitalisation to population		Market capitalisation to GDP	
		(billion USD)		(USD per capita)		(%)				(USD per capita)		(%)	
Legal origin	Legal origin	↑	10.8	↑	3,100	↑	13.2	↑	17.3	↑	3,473	↑	7.6
Creditor protection rights	Strength of legal rights index	↑	21.1	↑	5,242	↑	19.3						
	Depth of credit information index	↑	62.0	↑	10,692	↑	26.8						
	Private credit bureau coverage	↑	21.1	↑	5,075	↑	21.4						
	Public credit registry coverage	↑	10.2	↑	758	↑	3.5						
Shareholder protection rights	Extent of disclosure index							↑	25.9	↑	5,470	↑	6.1
	Extent of director liability index							↓	1.3	↑	2,259	↑	9.3
	Ease of shareholder suits index							↓	10.4	↓	956	↓	18.1
	Anti-director rights index							↑	67.6	↑	26,281	↑	7.15
Law enforcement	Rule of law	↑	86.7	↑	45,846	↑	36.3	↑	202.5	↑	91,269	↑	50.8
Judicial system efficiency	Time (days)	↑	9.3		-	↑	5.3	↑	8.3		-	↑	12.8
	Cost (% of claim)	↓	4.9	↓	1,407		-		-	↓	700	↑	15.8
	Procedures (number)	↓	11.6	↓	227	↓	18.5	↓	15.7	↓	1,076	↓	23.1
Islamic culture	Islamic political institutions	↓	11.3	↓	1,986	↓	9.6	↓	17.3	↓	1,919	↓	18.2
	Islamic financial institutions		-	↓	746	↓	11.0	↑	12.4	↑	286	↓	12.4
	Islamic educational institutions	↓	13.3	↓	1,841	↓	20.0	↓	7.7	↓	1,440	↓	16.1
	Islamic Institutionalisation Index	↓	12.5	↓	2,041	↓	19.0	↓	14.3	↓	2,020	↓	23.9
Hybrid legal system	Sharia Index	↓	10.7	↓	1,155	↓	22.6	↑	8.9	↑	749	↓	5.7

Source: Thesis analysis.

2.5.3. Robustness analysis

As a small MENA sample is unlikely to produce normally distributed errors, inferences based on OLS estimator may be inaccurate. Consequently, bootstrapping is used as an alternative to asymptotic approximations for obtaining confidence intervals (see Section 2.4.5). The bootstrap is performed on the same models and results from these tests are presented in Appendix 5. This section summarises the bootstrap findings.

Legal origin is positively associated with credit market development. The coefficients on the legal origin are weakly statistically significant at 10% when the credit market development is measured as a ratio but insignificant when the credit market development is measured in level. Contrary to the OLS results, the coefficients on the legal origin are statistically insignificant for the stock market development.

Consistent with OLS, the strength of legal rights, the depth of credit information and private credit bureau are positively associated with credit market development. Public registry coverage is positive and statistically significant at 10% when the credit market is measured in level; otherwise, it is statistically insignificant from zero.

The bootstrap results for stock market development and shareholder protection rights are partially consistent with OLS. The coefficients on the extent of disclosure index are positive and statistically significant at 1% level except for market capitalisation to GDP. Unlike OLS results, the extent of director liability index and the ease of shareholder suit index are not associated with stock market development. Anti-director rights index is positively associated with market capitalisation to population.

Similar to OLS, the rule of law continues to be positively associated with financial market development where the coefficients on the rule of law are positive and statistically significant at 1% level for the credit and stock market development.

The impact of judicial efficiency on credit market development shows that time to resolve a commercial dispute is marginally associated with the credit market development in levels. Cost is negatively associated and statistically significant at 5% level for the domestic credit to population, otherwise it is statistically insignificant. The coefficients on the procedures are negative and statistically significant at 1% and 5% for the domestic credit in levels and domestic credit to GDP respectively. The judicial efficiency on stock market development shows that the coefficients on time are marginally positive for the market capitalisation to GDP. Cost is not associated with stock market development whereas procedures are negatively associated with stock market capitalisation in level and stock market capitalisation to GDP.

The bootstrap results for the relationship between credit market development and the prevalent Islamic culture in the MENA suggests that IPI is negatively associated with credit market in levels and as a ratio to population. It is however, not associated with credit market development to GDP. IFI is not associated with credit market development whereas IEI is negatively associated with the three measures of credit market development. The coefficients on the aggregate index III are negative and statistically significant from zero regardless of legal origin inclusion. Similar to the credit market, IPI is negatively associated with stock market development and IFI is not associated with stock market development. IEI is negatively associated with the stock market capitalisation as ratios to population and GDP. The coefficients on the aggregate index III are negative and statistically significant with and without legal origin inclusion.

The duality of the legal system deters credit market development where all the coefficients of the Sharia index are negative and statistically significant from zero. However, the duality of the legal system does not affect the stock market development. The results are the same regardless of the inclusions of legal origin.

Overall, when all the creditor protection variables, legal origin, Islamic culture and the duality of the legal system are included in the regressions, three variables show association with credit market development. Depth of credit information is positively associated with credit market development. However both III and the Sharia index are negatively associated with the credit market development. Corresponding results for the stock market suggest that Islamic culture is negatively associated with stock market capitalisation to GDP. The hybrid legal system is negatively associated with market capitalisation to population and as a ratio to GDP. The ease of shareholder suit is negatively associated with the stock market development.

2.6. Conclusion

2.6.1. Summary and implications

The essay tests the impact of the legal environment and the role of culture on the financial market development in the MENA. The motivation stems from the peculiarity of the MENA's legal systems and its unique cultural identity. While the 'Law and Finance' literature considers the legal origin as a significant determinant of financial market development, the theory ignores how the transplanted legal rules interacted with the local traditions. The legal systems in the MENA are hybrid in the sense that while the laws are Western in substance, Sharia plays a constitutional role where it may apply whenever there is a vacuum in the legal rules. Moreover, while all MENA countries share common Islamic culture, the intensity of Islamic culture differs greatly between the countries. The impact of the prevalent Islamic culture on financial market development is examined via Islamic indices reflecting the extent of political, financial and educational Islamic institutions within the MENA countries.

This essay contributes to our understanding of the importance of the legal environment (investor protection, law enforcement, and judicial efficiency) and cultural values to the development of financial markets. The essay develops the shareholder protection index for each MENA country following La Porta et al. (1998) and Djankov, La Porta, et al. (2008) where the relevant legal provisions are extracted from the company law, securities laws; and, corporate governance codes. Moreover, the literature commonly measures Islamic culture using a religion dummy variable that does not reflect the variations among the MENA countries. A multi-dimensional variable measuring Islamic culture is used that is better able to measure the extent of Islamisation and hence identifies which part of the Islamic culture is detrimental to financial market development. Finally, the dual legal system is measured through the construction of Sharia index that measures the constitutional role of Sharia in MENA's legal systems. The role of Sharia is measured by reviewing and coding the constitution of each MENA country.

Both credit and stock market development are analysed using domestic credit to private sector and market capitalisation respectively. The legal environment considers the legal origin, investor protection rights, law enforcement and judicial efficiency in each MENA country. The legal origin of the country is determined by the comparative law literature. The investor protection indices, the creditor and shareholder protection rights, are adopted from the World Bank, Doing Business Report in addition to hand-collected data for the construction of the anti-director rights index. The creditor protection is measured via two variables the strength of legal rights protecting creditors and borrowers and the depth of credit information. Shareholder protection is

measured via four indices; the extent of disclosure index, the extent of director liability index, ease of shareholder suit and anti-director rights index. The law enforcement is measured by the rule of law variable measuring the extent to which agents are perceived to abide by the rules and regulations of the country. The judicial efficiency is measured in terms of the time, the cost and the number of procedures required to resolve a commercial dispute. The Islamic culture is measured in terms of Islamic institutionalisation index adopted from Achilov (2010) that measures Islamic culture in terms of Islamic political institutions, Islamic financial institutions and Islamic educational institutions. The legal duality is measured by the Sharia index that is constructed from the constitutional provisions.

The sample includes 21 MENA countries for the period 2007-2012. The essay uses OLS estimation with Driscoll-Kraay standard errors that accommodate the complex error structure of the panel data. Further, due to the small sample size, bootstrap analysis is conducted as a robustness check. The results of these two estimation procedures yield the same results on some relationships and different results on others. The statistical significance translates into economic significance. Several conclusions and implications emerge for the improvement of the legal environment that matters for investor protection. The common robust findings are the basis of the conclusions and implications below.

The robust results imply that the legal origin affects the development of credit market. However, it has no impact on stock markets in MENA. This finding is consistent with Roe (2006) and Siems (2007) argument that legal origin does not affect financial market development because the legal rules are converging to the point where the legal origin does not make a difference. Further, it shows that binary classification of legal origin fails to capture important features of the legal structure. The quality of certain legal rules and the law enforcement are more important determinant of financial market development than the legal origin. These findings reinforce La Porta et al. (1998), Djankov, La Porta, et al. (2008) and Djankov et al. (2007) on the important role the legal rules and institutions play in the development of financial markets. However, the findings also indicate that the quality of the legal environment that provides protection for suppliers is either advantageous or disadvantageous for financial market development.

The results show that the availability of more credit information is critical for credit market development. In practical implementation, the regulations need to enhance the rules and practices affecting the coverage, scope and accessibility of credit information available through either a public credit registry or a private credit bureau. Further, collateral and bankruptcy laws protect the rights of borrowers and lenders thus facilitate lending.

The results suggest that disclosure of self-dealing transactions benefits stock market development. This has implications for MENA countries since significant number of firms are operating as business groups with individual firms controlled by the same family and trading separately on the stock exchange. This structure encourages self-dealing where intra-group transactions are potentially conflicted. To enhance shareholder protection, the law should oblige such intra-group transactions to be disclosed and approved by shareholders. The results suggest that giving aggrieved shareholders the standing to sue for self-dealing transactions along with government's power to impose fines and prison terms for self-dealing transactions does not affect stock market development. However, providing access to information to examine self-dealing, and a low burden of proof deter stock market development. This finding indicates that a balanced protection for both sides of financial markets (investors and firms) is required to promote financial market development. Remedial shareholder protection mechanisms (litigation) for self-dealing are not as effective as pre-emptive shareholder protection mechanisms (disclosure).

Overall, investor protection effect is stronger for credit markets than for stock markets. This reinforces the view that credit markets are more important source of financing for MENA firms. Hence, stronger legal protection of creditors is critical aspects of the legal environment since any substantial growth in external finance is likely to be via bank loans rather than equity capital.

The evidence implies that law enforcement is a strong determinant of financial development. However, the judicial efficiency in resolving commercial disputes marginally benefits financial markets implying that institutional 'red tape' does not necessarily impair financial market development. Time to resolve commercial disputes is not associated with financial market development. However, lower cost and fewer number of procedures to resolve a commercial dispute is associated with more developed financial markets. The results however are sensitive to the selection of the dependent variable. This finding also reinforces the previous result that investors put more weight on the pre-emptive measures of investor protection rather than remedial measures of protection. For example, to avoid self-dealing, it appears best to rely on extensive disclosure rather than increasing the judicial efficiency by reducing the time to resolve the self-dealing incident.

The hybrid legal systems in the MENA deter financial market development. The role of Sharia in the constitution and the ambiguity in Sharia application create investment uncertainty. Governments, legislative bodies, and the courts need to make explicit declaration as to when Sharia applies, when it may apply, and when it does not apply. This knowledge provides confidence in the MENA financial markets. Islamic culture has negative impact on financial market development. This association has implications for firms, which are the demand side of

the financial market, and regulators. The firms can play an important role to enhance the depth and breadth of financial markets by introducing innovative investment opportunities for investors. Given that culture is persistent and cultural changes occur gradually over a long period of time, firms may introduce innovative Islamic products and Islamic financial services that are compatible with prevailing cultural values. The Islamic financial products are likely to be an appealing platform for a wider class of investors. The regulatory role lies in the establishment of rules and regulations that facilitate the issuance and dealings of Islamic financial products. In conclusion, the propositions of the 'Law and Finance' theory are incomplete without reflecting the distinctive characteristics of region's Islamic cultural identity and the legal duality. The cultural aspect of the region provides a finer and more detailed insight into the elements of the legal structure that would not be captured by the legal rules alone.

2.6.2. Limitations

Limitations of this research are associated with sample size, investor protection and financial market development data. Additionally, endogeneity between financial market development and investor protection that has plagued previous research is also a concern for this essay.

First, the small sample size of MENA presents challenges due to OLS assumptions; in particular the normality of error term. Further, small sample size makes it more difficult to detect differences. This limitation is not easily resolved. The only way to increase the sample is by increasing the time dimension T since N is fixed ($N=21$ MENA countries). However, the World Bank data for investor protection in the MENA is not available before 2006. Hence it is impossible to increase the sample size at this point in time. The bootstrap re-sampling technique attempts to address the small sample size concern. While not perfect for small samples it increases the confidence of the results estimated using the real data.

Second, investor protection indices are derived from the World Bank. The data is collected through a questionnaire distributed to local lawyers, business consultants, accountants, government officials and other professionals advising on legal and regulatory requirements. Several methodical limitations exist. First, the transactions described in a standardised case scenario refer to a specific set of issues and may not represent the full set of issues a business encounters. Second, while the use of standardised case scenarios and assumptions ensure the comparability of the data, it comes at the expense of generality. Third, collected data refer to businesses in the economy's largest business city and may not be representative of regulation in other parts of the economy. For example, the cost to resolve a commercial dispute represents the cost in the largest city which may be different in any other city in that same country. Fourth, the

data focus on a limited liability company of a specified size which may not be representative of the regulation on other businesses. Despite the fact that the limited liability company is the most prevalent business form in many economies, it ignores all other types of business operations. Fifth, the measures of some variables involve an element of judgment by the expert respondents (World Bank, 2014a).

Further, the stock market development and domestic credit to private sector indicators may not fully reflect the financial development. MENA are bank-based economies and most of the largest firms in MENA are unlisted. The corporate sector in the MENA is dominated by family firms held as private firms and/or state-owned firms which mostly remain unlisted on the stock exchange. For example, the Saudi Arabian Oil Company (Aramco), the world's most valuable firm, is not listed on the Saudi stock exchange. According to OECD (2006) report the largest 20 firms in Bahrain, Lebanon, Egypt, Kuwait, Morocco, Oman, Saudi Arabia and the UAE are not exchange listed (OECD, 2006, p. 3). The corporate sector in Saudi Arabia, Kuwait and Oman is dominated by state owned firms and family held private businesses.

Finally, endogeneity between financial market development and investor protection is not completely resolved. There is no identified valid instrument that can be used to solve the issue. Legal origin is an invalid instrument as it affects both financial market development and investor protection. In this essay, a modest approach has been adopted to address endogeneity where lagged independent variables are used in multiple regression equations.

2.6.3. Further research

Several avenues for future research follow from the present study. It may be insightful to analyse the impact of each element of investor protection by using the scores collected from the sub-indices rather than the aggregate indices to isolate the specific elements that matter for financial market development. However, the scores of the sub-indices are only presently available for 2013.

Another extension to this research is to link the impact of investor protection on the firm's cost of capital. In countries where shareholder and creditor protection levels are high, the cost of equity and cost of debt is expected to be lower than countries with lower levels of investor protection.

This research focus only on the supply side of the financial market, so a natural extension would be to consider the demand side of the market by analysing how firms make capital structure decisions given the level of shareholder and creditor protections.

CHAPTER 3

Determinants of US mutual fund investment in MENA

3.1. Introduction

Portfolio theory suggests that spreading investment risk among different countries and firms maximises portfolio returns and minimises volatility. Ideally, if mutual fund managers are mean-variance optimisers in a perfect financial market, their portfolios should mimic the efficient market portfolio. In reality, portfolio theory predictions are not strictly followed as mutual fund investment screening processes typically involve investment criteria beyond mean-variance optimisation (Aggarwal, Klapper, and Wysocki, 2005; Celiker, Chowdhury, and Sonaer, 2015; Chan and Covrig, 2012; Chan, Covrig, and Ng, 2005; Kaminsky, Lyons, and Schmukler, 2001).

International investment portfolios, particularly those of US institutions, are increasingly weighted in emerging stock markets to enhance performance and diversification (Ferreira and Matos, 2008, p. 510). Emerging markets are perceived as a different asset class with generally higher returns compared to developed markets, and, emerging market indices were also the best performers during the GFC (Berrill and Kearney, 2013, pp. 331, 337). Further, US mutual funds that invest in emerging markets outperform those investing in either domestic or international stock markets (Bertin and Prather, 2011).

Increased access to stock markets across the MENA has expanded opportunities for investors to diversify their investments as several MENA markets are partially segmented from the world's financial markets (Méon and Sekkat, 2004). Recent growth of market capitalisation in MENA stock markets has been more volatile than in developed stock markets, suggesting that both return and risk in MENA markets are substantial. Furthermore, the insulation of the MENA markets from the GFC increased the importance of the region as a potential investment option, especially when portfolio diversification is a priority. Despite high returns, the foreign investment into the MENA remains low at a global level (Onyeiwu, 2003; Mohamed and Sidiropoulos, 2010). This may be the result of regional instability due to wars and political turmoil, which substantially increases investors' risk perceptions. Lagoarde-Segot and Lucey (2007) and Mansourfar, Mohamad, and Hassan (2010) report outstanding diversification benefits in the MENA region, particularly for the oil producing countries and expect MENA stock markets to attract greater portfolio fund investment in the future. While statistics on foreign portfolio investment remain unpublished by many MENA stock markets, the general consensus is that MENA markets are under-estimated and under-investigated by foreign investors (Lagoarde-Segot and Lucey, 2007, p. 402) due to risk perceptions and institutional under-development (Girard et al., 2003, p. 286).

Publicly traded firms in MENA are characterised by high ownership concentration and prevalence of family businesses, business groups and government ownership (OECD, 2005, p. 7; OECD, 2012, p. 3). These characteristics have substantial consequences for corporate governance practices.⁵⁸ Ownership concentration of listed firms has a negative impact on disclosure where controlling shareholders face incentives to avoid pursuing corporate governance mechanisms that ultimately erode their control. The prevalence of family business and groups in publicly traded firms in MENA also has implications on board structure. Controlling shareholders through single family stakes and complex holding company structures may directly influence corporate decisions (OECD, 2005, p. 8). Business transactions, financing arrangements and corporate governance are conducted among a group of economically and politically powerful controlling shareholders of individuals, families, government or financial institutions (Masulis, Pham, and Zein, 2011). Consequently, many of the basic corporate control mechanisms relied upon in Western stock markets are dormant throughout the MENA region. Understanding the complexity and the sophistication of these relationships and ownership structure requires local knowledge of social and political ties. Consequently, information asymmetries are prevalent and the information costs that help outside investors assess investment risk in MENA is particularly high for foreign investors.

Under such risky circumstances, minority shareholder protection is necessary for the creation of an investment environment that attracts foreign investment. Poor shareholder protection places foreign investors at a relative disadvantage compared to local investors. Research documents that the extent of information asymmetry is a critical factor for foreign investment, particularly in emerging markets (Brennan and Cao, 1997; and Bekaert, 1995). In this context, minority shareholder protection mechanisms that facilitate external foreign financing by reducing the information asymmetry are essential to counterbalance the lack of information (La Porta et al., 1998) and to promote foreign investment. Minority shareholder protection is particularly influential on investors most affected by information costs, namely, foreign investors (Giofr , 2014).

Shleifer and Vishny (1997) identify two common corporate governance mechanisms that convey power to investors. The first approach bestows investor power through the legal protection from expropriation by managers and controlling shareholders. Protection of minority shareholder rights and legal prohibitions against managerial self-dealing are solid examples of such

⁵⁸ High ownership concentration and government ownership of listed firms, either directly or through sovereign investment funds, translates into a low ‘free float’ in MENA stock markets. Unlike most developed markets where free float accounts for half of the market capitalisation, free float in most MENA markets is less than 50% of their market capitalisation. Free float is lowest in Morocco at 20% and highest in Kuwait at 80% of market capitalisation (World Bank, 2011, p. 228).

mechanisms. The second approach, concentrated ownership aligns cash flow with control rights (Shleifer and Vishny, 1997, p. 739). While large investors still rely on the legal system, the size of their investment and direct input into decision making means that they do not need as many rights as the small investors to protect their interest. Contextually, a case can be made that US mutual funds could be considered ‘minority shareholders’ in MENA markets, and require the legal system to protect their investments from expropriation.

The ‘Law and Finance’ theory emphasises the role of the legal environment on the development of financial markets. La Porta et al. (1997) argue that the legal rules protecting minority shareholders from expropriation by insiders increase the willingness of outside investors to provide capital to firms. This theory is important to our understanding of US mutual fund investment in the MENA as it links the financing patterns for firms in a particular country with the country’s legal environment and financial development. Consequently, investor protection and stock market development have implications for global investment. The prediction of the ‘Law and Finance’ theory is that the legal environment influences the equity investment, and thus, weak investor protection reduces the incentives to participate in the domestic stock market for both domestic and foreign investors. This essay examines whether financial development and the legal environment are both tenets for investment selection by US mutual funds.

3.1.1. Contributions and objectives

This essay contributes to the literature on the determinants of foreign investment allocations in emerging markets in four ways.

First, this research complements studies by La Porta et al. (1997, 1998) and La Porta et al. (2006) which focus on the legal underpinnings of finance. For years, the ‘Law and Finance’ theory has remarked on the role of the legal rules for financial market development and attracting investment (Levine, 1998). Several studies consider investor protection and financial market development as potential factors of capital flows and global investment decisions. However, this research explicitly models the joint impact of financial market development and legal environment in attracting foreign investment. Further, given that MENA stock markets are considered as ‘emerging’ or ‘frontier’ markets, country-level investor protection is critical for the investment decision. This is because firms in countries with low financial development do not adopt good governance practices and the rights of minority shareholders are mostly determined at the country level (Doidge, Andrew Karolyi, and Stulz, 2007).

Second, US mutual funds are among the largest groups of international equity investors in the world (see Table 3.1). The worldwide importance of this investor class is substantial as US

mutual funds own half of the total world net assets (Investment Company Institute, 2014) and they also account for 30% of total foreign equity investment worldwide (US Department of the Treasury, 2012; International Monetary Fund, 2013). Given the predominance of US mutual funds as a source of capital, emerging market countries have strong incentives to attract this investment pool to improve market liquidity and lower the cost of capital to MENA firms. Consequently, it is important to understand why US mutual funds invest unevenly in MENA countries and firms as well as identify the factors that enter into the investment screening process of mutual funds managers.

Table 3.1 Morningstar® Principia® coverage

<i>Year</i>	<i>Worldwide total net assets of mutual funds (billion USD)</i>	<i>US total net assets of mutual funds (billion USD)</i>	<i>US to worldwide total net assets of mutual funds</i>	<i>Morningstar® Principia® total net assets of mutual funds (billion USD)</i>	<i>Morningstar® coverage ratio</i>
2008	18,919	9,603	51%	3,912	41%
2009	22,945	11,113	48%	5,193	47%
2010	24,710	11,831	48%	5,826	49%
2011	23,796	11,626	49%	5,682	49%
2012	26,836	13,044	49%	6,457	50%

Source: Worldwide total net assets of mutual funds and total net assets for the mutual funds are from 2014 Investment Company Fact Book available at <http://www.icifactbook.org>. Net assets for the Morningstar® data is from Morningstar® Principia® CDs (2008-2012).

Third, this essay focuses on the investment decision of US mutual fund managers in the MENA stock markets. Three advantages arise from this setting. First, by considering the investment decision of a single class of investor, that is US mutual fund managers, the analysis controls directly for the level of financial sophistication (homogeneous investor type). Second, by considering a single source of investment, US based investments, the analysis controls for source-country-factors where the literature finds that the level of domestic investor protection affects foreign portfolio composition (Giofré, 2014). Third, by focusing on MENA markets, familiarity factors that have been found in the literature to affect investments in foreign markets are controlled for (Ke, Ng, and Wang, 2010; Massa and Simonov, 2006) since US investor perceive MENA markets with the same level of unfamiliarity in terms of geographic proximity and spoken language.⁵⁹

⁵⁹ Firms listed in Egypt and Jordan report their financial statements in Arabic. English reporting is voluntary. Firms listed in Bahrain, Kuwait, Oman, Qatar and UAE report their financial statements in both Arabic and English. Firms listed in Israel disclose their financial statements in Hebrew. The English translation if available is not legally binding. Firms listed in Morocco and Tunisia disclose their financial statements in French. Firms listed in Turkey report their financial statements in Turkish. Language is not tested in this thesis. Further, Databases like Bloomberg and Reuters provide all the financial data in English which makes the language barrier less relevant in the current era.

Finally, the essay employs a rich dataset from Morningstar[®] Principia[®] that contains information on how US mutual funds allocate their portfolios domestically and internationally. The dataset includes detailed individual mutual fund equity holdings from over 7,000 US mutual funds. The data reports the quantity and market value of country-level and firm-level equity holdings for the years 2008-2012. Such detailed statistics on foreign portfolio investment is unpublished by many MENA stock markets. Table 3.1 shows that the net assets of US mutual funds reporting to Morningstar[®] in 2012 represent 50% of the total US mutual funds net assets. Thus, US mutual fund investment is a reasonable proxy to directly measure the level of foreign investment in MENA.

This research aims to:

- document the US investment trends into the MENA stock markets via US mutual funds for the period 2008-2012.
- establish whether US mutual funds follow sound and rational investment practices that are consistent with finance theory predictions.
- identify which investor protection aspects matter most for attracting foreign investment.
- examine whether firms can adopt discretionary policies to mitigate the shortcomings of the legal environment where they operate.

3.1.2. Essay structure

The essay proceeds as follows. Section 3.2 discusses the literature on the importance of the country-level legal environment and financial market development in reducing the information asymmetries and attracting investment to emerging markets. Additionally, the literature highlights the impact of firm-level discretionary policies on attracting foreign investment. Section 3.3 describes the adopted research design. The data extraction process for the US mutual fund investments in MENA is introduced. The models used to examine the prediction of the ‘Law and Finance’ theory are then illustrated. The variable definitions and sources are discussed and the estimation method is explained. Section 3.4 documents the dollar value of US mutual fund investment and the number of funds investing in each MENA country over the sample period. This section also outlines univariate and bivariate analysis including summary statistics to describe the sample, correlation, frequency tables and means test. Multivariate regression results using both logistic and tobit estimation are then reported. Section 3.5 provides a summary of the research findings, implications and limitations. The scope for further research is also outlined.

3.2. Literature review

The investment decision of mutual funds managers requires asset allocation and security selection decisions both of which are critical determinants of mutual fund returns.⁶⁰ Ibbotson and Kaplan (2000) find that the difference in returns across funds is explained 60% by security selection and 40% by asset allocation decisions. Each mutual fund has its own distinctive investment philosophy, yet the common ultimate objective is to beat the market and generate excess positive returns (positive alphas). Importantly, country and security selections are not independent screening processes. While some funds focus on firm analysis when selecting investment securities (bottom-up), others further analyse the countries in which the firm operates (top-down) or adopt some hybrid selection process.⁶¹ The emerging market literature favours country selection arguing that portfolio returns are driven by country specific factors (Serra, 2000, p. 127; Kortas, L'Her, and Roberge, 2005, p. 2). Stulz (2005) emphasises the significance of country attributes related to investor protection and government policies for investment decisions. The following literature reviews the theories on the determinants of foreign portfolio investment, the impact of the country-level legal environment and financial market development on the investment decision and the effect of firm-level policies on attracting foreign investment.

The traditional portfolio theory of Markowitz (1952) suggests that risk sharing is the main incentive of cross-border capital flow. The international version of the capital asset pricing model (CAPM) of Sharpe (1964) and Lintner (1965) model global portfolio diversification (Adler and Dumas, 1983). These models assume that investors are risk averse with homogenous expectations about asset returns and that investor's decisions are solely based on expected returns and the variances of asset returns. Further, a risk free asset exists where investors can lend and borrow at the same rate and capital markets are complete, perfect and frictionless. Under these restrictive assumptions, the theory predicts that investors optimise their portfolio returns by holding the world market portfolio of risky assets in proportion to their market capitalisation.

⁶⁰ Asset allocation means allocation among asset classes (equities, fixed income, and real assets) and allocation among countries (domestic and foreign).

⁶¹ For example, the objective statement in the prospectus of Blue Current Global Dividend Fund outlines the investment strategy as follows:

"... the Adviser applies fundamental, 'bottom-up' analysis when selecting investments for the Fund. This analysis focuses on the specific attributes of each company rather than the industry in which the company operates or the economy in general" (Blue Current Global Dividend Fund, 2014, p. 5).

Whereas RBC BlueBay Emerging Market Select Bond Fund prospectus provides:

"The Fund seeks to generate excess returns via superior country and issue selection through an in depth country and security selections process" (RBC Bluebay Emerging Market Select Bond Fund).

Clearly, security analysis is the basis for selection for the Blue Current fund, while both country and security analyses are the basis for selection in the RBC BlueBay fund. Hence, the mutual fund investment decision may take into account both country and firm levels characteristics to differing degrees.

In substantial contrast, the empirical evidence shows that investors do not fully exploit such diversification opportunities (under-diversified). This is evident by the well documented ‘home-bias’ puzzle where investors tend to over-invest in the local market. Under-diversification is prevalent despite the increased level of integration in global financial markets. The home-bias puzzle has created an incentive for researchers to analyse the determinants of foreign investment explaining under-diversification.

The home bias literature explains the apparent under-diversification behaviour in foreign markets on different grounds. Some argue that the relative under-diversification in foreign markets is a rational response to market imperfections (Stulz, 1981) related to direct barriers such as foreign exchange controls and taxes, and indirect barriers to international investment such as political risk differences between domestic and foreign investors and information asymmetries (Kang and Stulz, 1997). However, behavioural theories reject the full rational model of investor decision making and suggest that investors under-weigh the proportion of wealth invested in foreign equities due to a series of cognitive processes that influence their risk perception (French and Poterba, 1991). The empirical evidence is mixed. Ke, Ng, and Wang (2010, p. 961) find no evidence supporting the rational information-based explanation for US mutual funds holdings in non-US firms and conclude that the preference for geographically proximate investments is driven by psychological ‘familiarity’ issues. Yet, Massa and Simonov (2006, p. 634) argue that familiarity-driven investment decisions are a rational response to information constraints and not a behavioural heuristic. Sercu and Vanpee (2007) argue that neither rational nor behavioural factors fully explain the extent of global under-diversification.

An information asymmetry argument between domestic and foreign investors is proposed to inhibit international portfolio investment where domestic investors have superior access to information about domestic firms’ payoffs and economic conditions. Consequently, risk-averse investors prefer to invest in stocks where there is better quality information (domestic stocks) and perceive domestic stocks as less risky (Sercu and Vanpee, 2007, p. 21). Brennan and Cao (1997) develop a model of global equity investment flows based on informational differences between foreign and domestic investors. Their model conjectures that the purchase of foreign equities is a linear function of returns on foreign stock markets, since foreign investors are relatively less informed than domestic investors, and thus, foreign investors are inclined to pursue momentum strategies. Using the equity flows between the US and 16 emerging markets, Brennan and Cao (1997) test their model and find that US purchases are positively associated with both the lagged and contemporaneous returns on the local market index. This result is consistent with the notion that US investors are at an informational disadvantage relative to locals. Other studies confirm

that foreign investors pursue momentum strategies, supporting the importance of the information asymmetry hypothesis as a determinant of foreign capital flow (Brennan, Henry Cao, Strong, and Xu, 2005; Grinblatt and Keloharju, 2000; Bohn and Tesar, 1996). The asymmetric information is acute particularly in emerging markets where illiquidity (Bekaert and Harvey, 2003; and Berrill and Kearney, 2013) and lack of transparency as reflected by corporate information scarcity, lax disclosure requirements and overall weak regulations result in truncated fundamental information and hinder the flow of information (Blavy, 2002) cited in Lagoarde-Segot and Lucey (2008, p. 95).

3.2.1. Legal environment

Information asymmetry theory is closely related to the quality of legal environment. Poor minority shareholder rights increase the information asymmetry and consequently require higher monitoring costs for the investment decisions of foreign investors. La Porta et al., (1997, 1998) argue that investors are often reluctant to invest in markets where their rights are unprotected. However, others argue that, from the perspective of partial equilibrium models, the probability of expropriation is fully discounted in the stock price. That is, if investors knowingly invest in countries with poor investor protection, then the possibility of expropriation is fully discounted in the stock price and foreign investors have no reason to avoid poorly governed countries (Dahlquist, Pinkowitz, Stulz, and Williamson, 2003, p. 89; Giannetti and Koskinen, 2010, p. 136).

The impact of the legal environment on mutual fund investment decisions has been tested in Aggarwal et al. (2005) and Chan et al. (2005). Aggarwal et al. (2005, p. 2928) analyse the determinants of US mutual fund investment in 30 emerging markets by regressing fund deviation from investment allocations predicted by the international CAPM using two measures of legal environment: a broad measure for the adequacy of the legal framework (capturing market regulation, legal system and investor protection); and, shareholder rights (which reflect the adequacy of regulations protecting minority shareholders). Both measures of the quality of the legal environment are positively related to US mutual funds foreign investment in emerging markets. Chan et al. (2005) hypothesise that the deadweight cost for foreign investors in countries with poor investor protection is greater relative to that of domestic investors, thus foreign investors hold a lower proportion of local equities. The study uses rule of law, risk of expropriation, anti-director rights and legal origin as measures of investor protection. Chan's results show that only rule of law and expropriation risk affect domestic and foreign bias, while both anti-director rights and legal origin are insignificant. Rule of law is positively associated with both domestic and foreign bias indicating that when a country strongly enforces its law, the

confidence of domestic investors in the regulatory system is boosted and hence they are willing to invest more locally than overseas. However, expropriation risk is positively related to foreign bias and negatively related to domestic bias indicating that when the expropriation risk is small, relatively more foreign investments are attracted to the local market. Chan et al. (2005) conclude that foreign investors are more concerned about a country's ability to offer better investor protection rights than domestic investors, and the greater the country's protection of investors' rights, the lower its foreign bias.

While Essay 1 finds that certain shareholder protection rights are important for stock market development, a tension exists in the literature regarding the importance of shareholder protection for both local and foreign investors. Roque and Cortez (2014) use the World Bank's strength of investor protection index and finds that investor protection is key for the international equity investment decisions of OECD institutional investors. However, contrary to the 'Law and Finance' theory prediction, (Ferreira and Matos, 2008, p. 510) find that the quality of a country's legal environment is negatively (positively) related to the presence of foreign (domestic) institutional investors. Ferreira and Matos (2008) attribute their finding to the notion that an investor's decision to invest abroad balances strong investment prospects and perceived diversification benefits against weak shareholder protection. They put forward this argument as reasoning for why US investors prefer emerging markets compared to well established European markets. Giofré (2014) argues that investors benefiting from high levels of home protection are less demanding about foreign corporate governance when constructing their foreign portfolios.

The literature highlights the importance of country-level legal environment for the foreign investment decision. Leuz, Lins, and Warnock (2009) find that US investors hold fewer shares in firms with high levels of managerial and family control when these firms are domiciled in countries with weaker disclosure requirements, securities regulations, and minority shareholder rights. In contrast, firms with substantial managerial and family control do not experience less foreign investment when they reside in countries with extensive disclosure requirements and strong investor protection. Leuz et al. (2009) attribute the result to information asymmetries that give rise to an adverse selection problem and higher monitoring cost for the investment decisions of foreign investors.

The 'Law and Finance' theory predicts that countries with English common law legal origin are able to attract more investment than French civil law countries (La Porta et al., 1997, 1998). This prediction is driven by the historical narrative and the empirical evidence that countries with common law legal origin provide better laws, promote the rule of law, protect property rights, enforce contracts, run efficient judicial systems and operate under market-oriented regulations.

Lee, Staats, and Biglaiser (2012) find that countries with common law legal origin attract more portfolio investment than civil or Islamic legal origin. Poshakwale and Thapa (2011) find that common law countries attract higher levels of international equity investments. In contrast, Pendle (2008) finds that Australian investors are more likely to invest in countries with a Scandinavian legal origin, followed by French, then German and are least likely to invest in countries with British common law which contradicts the ‘Law and Finance’ theory prediction.

The importance of the laws and their enforcement in protecting minority shareholders is emphasised in Stulz (2005) argument that minority shareholders are not only expropriated by firm’s insiders seeking private benefits but also by governments that improve their welfare by reducing the return on corporate investments. Stulz argues that a ‘twin agency’ problem feeds one another where the cost of extracting private benefits depends upon the rights granted to minority shareholders and the degree to which these rights are protected by government. This result has consequences on foreign investment where countries with poor investor protection and high risk of expropriation have a smaller fraction of wealth owned by foreign investors (Stulz, 2005, p. 1624).⁶² Giannetti and Simonov (2006) argue that the investment decision is driven by the fear of expropriation. Using firm-level corporate governance of Swedish firms, Giannetti and Simonov (2006) find that investors (domestic individual, institutional or foreign investors) enjoying only security benefits are reluctant to invest in firms with poor corporate governance. However, insiders who can extract private benefit from the firm are not concerned about the weak corporate governance and are more likely to invest in firms where the controlling shareholder has strong incentives to extract private benefits.⁶³

The channel through which investor protection affects foreign holding is analysed from two perspectives. Dahlquist et al. (2003) relate the impact of investor protection on foreign holding to the amount of free float available for investment while Giannetti and Koskinen (2010) link the impact to stock returns.

Dahlquist et al. (2003) argue that US investors underweight foreign firms in countries with poor investor protection due to the prevalence of closely-held firms. A large portion of the equity of firms with concentrated ownership structure is locked up and therefore unavailable for foreign investors. Dahlquist et al. (2003) conduct country-level analysis and find that US investors have

⁶² The literature provides evidence on the importance of the law enforcement on foreign investment: Daude and Fratzscher (2008) for international equity and debt portfolio investment; Mishra and Daly (2006) for Australia’s equity allocation; and Staats and Biglaiser (2011) for portfolio investment in developing countries.

⁶³ Giannetti and Simonov (2006) finding provides only a lower bound for the influence of corporate governance on investment decisions since the analysis is based on investments in Sweden which is renowned for strong investor protection and high law enforcement. The fear of expropriation is greater in countries with lower quality legal environments.

a lower portfolio share of countries with a larger fraction of shares that are closely held. However, anti-director rights, judicial efficiency and stock market development are found to be unrelated to the share of a country in US stock portfolios. Dahlquist et al. (2003, p. 109) and Kho, Stulz, and Warnock (2009, p. 632) note that decentralised ownership is critical to overcome global under-diversification. An improvement in investor protection does not necessarily lead to a greater portfolio share of that country or firm in the portfolio of US investors unless the share of a country or a firm in the float portfolio increases.

Giannetti and Koskinen (2010) argue that concentrated ownership in firms operating in weak corporate governance environment leads to lower stock returns, which is another reason for under-diversification. Their rationale is based on the fact that stock prices reflect the demand for equity by both controlling shareholders and ‘other’ minority investors. Due to the high demand from controlling shareholders, the price of weak corporate governance stocks is not low enough to fully discount the extraction of private benefits. Thus, stocks have lower expected returns when investor protection is weak and the lower expected returns lead to lower stock market participation rates.

While several studies argue that it is corporate governance that affects foreign investment (Aggarwal et al., 2005; Leuz et al., 2009), Aggarwal, Erel, Ferreira, and Matos (2011) consider the role of foreign institutional investment as a channel for promoting better governance practices across countries. Aggarwal et al. (2011) hypothesise that institutional investors affect firms internationally to adopt better governance practices by influencing the management and using voting rights or by their decisions to buy or threaten to sell their shares. They identify a positive relationship running from institutional ownership to firm-level governance, and not vice versa. Furthermore, Aggarwal et al. (2011) find that independent institutions (mutual fund managers and investment advisers) that are unlikely to have business ties with the invested firm are the main drivers of governance improvement. The role for institutional investors in corporate governance is confirmed by Bushee, Carter, and Gerakos (2014) findings that firms with higher ownership of ‘governance-sensitive’ institutions exhibit significant future improvements in shareholder rights, consistent with an effect of ‘shareholder activism’.⁶⁴

3.2.2. Stock market development

Well developed stock markets are more structured, have higher levels of liquidity and lower transaction costs relative to less developed markets. Thus, stock prices in developed markets are more informative. Berkel (2007, p. 6) notes that larger markets encourage arbitrage through

⁶⁴ Institutional investors are classified as ‘governance-sensitive’ if they significantly tilt their portfolio weights toward firms with better corporate governance as measured by board characteristics and shareholder rights.

liquidity, the existence of more substitutes to use as hedges for trading against mispriced securities and reduced transaction costs. Under such circumstances, information asymmetry is expected to be lower for more developed stock markets and this attracts more equity investments than in less developed markets. Several empirical studies show that the higher the financial sophistication and stock market development of the destination country, the greater the level of international portfolio investment.⁶⁵ Ferreira and Matos (2008, p. 510) find that US institutions prefer less developed markets.

Chan et al. (2005) use four variables to analyse the impact of stock market development on home and foreign bias for mutual funds: the size of the stock market as a percentage to GDP; turnover ratio; transaction cost; and, an emerging market dummy. Chan et al. (2005, p. 1518) hypothesise that if stock market development lowers foreign investors' cost more than domestic investors, foreign investors will be attracted into these stock markets and crowd out domestic investors. However, if stock market development lowers the cost for both domestic and foreign investors symmetrically, Chan et al. (2005) expect none of the stock market development measures to have a differential impact on the foreign and domestic biases. The results on foreign bias show that mutual funds tend to invest in large and liquid developed markets that have lower trading costs.

3.2.3. Firm's discretionary policies

Despite the notion that firm-level governance is largely driven by country characteristics (Ferreira and Matos, 2008), firms can distinguish themselves by adopting policies that make it easier for foreign investors to assess them as a potential investment destination. The impact of two firm's discretionary policies, International Financial Reporting Standards (IFRS) adoption and a big-four auditor appointment, on attracting foreign investment is considered.⁶⁶

As financial statements convey information about the firm's performance and operations, accounting standards that render the firm's information interpretable are critical for investment decisions. Bushman and Smith (2001) cited in Habib (2007, p. 5) posit that accounting standards play a role in corporate governance to discipline managers. Further, the literature shows that accounting standards are a consequence of disclosure rules (Habib, 2007; Francis, Khurana, and Pereira, 2001) and that the quality of accounting standards is positively associated with the extent of shareholder protection (La Porta et al., 1998). Further, the availability of quality and

⁶⁵ Several papers provide evidence supporting this claim: Portes and Rey (2005) for gross transaction equity flows; Aggarwal, Kearney, and Lucey (2012) for both debt and equity foreign portfolio investment; Kim and Wu (2008) in emerging markets; Pendle (2008) and Mishra and Daly (2006) for the Australian foreign portfolio; Vermeulen and de Haan (2014) for net equity and debt; Daude and Fratzscher (2008) for foreign equity and debt portfolio; and, Roque and Cortez (2014) for institutional and non-institutional investors.

⁶⁶ Along the lines of Ross (1977) debt signalling theory, firms signal quality by voluntarily adopting IFRS and/or appointing a big-four auditor.

comparable financial statements is important for stock markets' operations (Demirguc-Kunt and Levine, 1999, p. 31).

Adopting IFRS brings informational change by reducing information processing costs and decreasing information uncertainty about the quality of financial reporting or the distribution of future cash flows (Beneish and Yohn, 2008, p. 434; Shima and Gordon, 2011, p. 481). Reporting under IFRS makes financial statements more uniform, thus making it easier for foreign investors to interpret and compare the financial statements across firms listed in different countries. Consequently, foreign investors can more easily find investment opportunities in foreign stock markets previously considered less attractive. Beneish, Miller, and Yohn (2012) argue that IFRS adoption reflects improved financial reporting quality rather than greater comparability because their findings show that the increase in foreign investment around the mandatory adoption of IFRS originates from non-adopting countries, the US, rather than other adopting countries. Gordon, Loeb, and Zhu (2012) find that IFRS adoption increases foreign investor confidence for firms in developing economies, but not for firms in developed economies.

IFRS adoption, whether voluntary or mandatory, has consequences on foreign investment. Using firm-level holdings of worldwide mutual funds Coving, Defond, and Hung (2007) provide evidence that voluntary IFRS adoption reduces home bias among foreign investors and thereby improves capital allocation efficiency. Similarly, DeFond, Hu, Hung, and Li (2011) establish that firms experiencing larger increases in foreign mutual fund ownership when there is a credible increase in uniformity from mandatory IFRS adoption in the European Union.⁶⁷

The literature provides evidence of association between IFRS, foreign investment and legal environment. Coving et al. (2007) show that IFRS adoption has the greatest impact on foreign investment in poor information environments and when there is low firm visibility. This finding is consistent with the notion that firms adopt IFRS to provide more information and/or information in a more familiar form to foreign investors (Coving et al., 2007, p. 69). Other studies however find that IFRS effect on foreign investment is limited to countries with strong legal environment. Beneish et al. (2012) find that increases in foreign equity investment post 2005 IFRS adoption are limited to countries with high governance quality. Shima and Gordon (2011) find that increased US investment is associated with IFRS when it is combined with a strong regulatory environment. Florou and Pope (2012) find similar results for institutional holdings.

⁶⁷ Other studies confirm the positive association between foreign holdings and accounting standards quality: Hamberg, Mavruk, and Sjögren (2013) for Swedish firms; Chan et al. (2005) for worldwide mutual funds holdings; Gelos and Wei (2005) for emerging mutual funds holdings; and, Mishra and Daly (2006) for Australia's foreign equity investment.

Empirical evidence suggests that the countries that benefit the most from adopting IFRS are those where the differences between local accounting principles and IFRS are large (Florou and Pope, 2012). Bradshaw, Bushee, and Miller (2004) examine the relationship between accounting method choice and investment by US institutional investors in non-US firms. They hypothesise that US institutional investors exhibit a preference for firms using accounting methods that conform to US generally accepted accounting principles (GAAP) as greater conformity with accounting practices familiar to foreign investors reduces information processing costs, which allows for more thorough analyses and increases the credibility of the financial information. Their results show that higher level of US institutional ownership in non-US firms that use a greater number of accounting methods conforming to US GAAP. This association holds regardless of firm visibility but is significantly stronger for more visible firms.

Firms signal the credibility of their financial statements and assure investors that the financial statements are free from material misstatements and fraud by subjecting them to independent audit (Barton, 2005, p. 553). The larger the audit firm size, the greater the auditor's independence (DeAngelo, 1981a). Thus the auditor's size influences the perceptions of independence and objectivity in reporting. Further, to maintain their reputation, big auditors have the incentives and the sufficient resources to assure the integrity of disclosed information (DeAngelo, 1981b). Accounting research also points out that the appointment of a big-four auditor reduces information asymmetries. Farooq, Derrabi, and Naciri (2013) argue that big-four auditors are a reasonable proxy for reliable information, implying financial information audited by a big-four auditor reduces the uncertainty about the firm's future cash flows and encourages investment (Chang, Dasgupta, and Hilary, 2009).

Audit quality plays an important role in the investment decisions of foreign investors. Firms appointing big-four auditors attract greater foreign investment due to lower information processing costs. Using equity holdings of mutual funds in developed and emerging markets, Chou et al. (2014) find that firms audited by big-four auditors attract greater foreign investment than those firms that do not. The results also reveal that foreign mutual fund ownership increases (decreases) significantly in the year following an appointment (a drop) of a big-four auditor.

Considering both IFRS and auditor, Aggarwal et al. (2005) emphasise the important role of voluntary disclosure choice (including internationally recognised accounting standards, auditor quality, auditor opinion and the use of consolidated financial statements) in mitigating emergent country institutional deficiencies to attract foreign institutional investment. Results show that accounting quality attracts US mutual fund investment particularly in emerging countries with weak shareholder protection. Aggarwal et al. (2005) conclude that country and firm level

characteristics are complementary and promoting improved accounting disclosures enhances foreign investment, even in countries with weak shareholder rights.

3.3. Research design

This section identifies the sample, presents the model specification, discusses the variables and reviews the estimation method adopted.

3.3.1. Sample

US mutual funds portfolio holdings are obtained from Morningstar[®] Principia[®] 2008-2012 CDs.⁶⁸ The investment holdings in a given year contain a single snap-shot of investment for a single month in the year and funds may report holdings on different dates.⁶⁹ Non-equity investments are excluded as the analysis focuses on portfolio allocation decisions of US mutual funds in MENA stock markets. Out of 21 MENA countries, mutual funds reporting to Morningstar[®] report holdings in 11 MENA countries only. The funds show no investments in Libya, Syria and Yemen as stock markets do not exist. Additionally, US mutual funds reporting to Morningstar[®] do not disclose investments in Algeria, Iran, Iraq, Palestine and Sudan despite the existence of stock markets. While Iran is not expected to have US mutual fund investment due to US sanctions, Algeria, Palestine, Iraq and Sudan markets are not closed to foreign portfolio investment, yet none of the US mutual funds report investment in these countries. The potential reasons for the absence of declared investment in these countries are the political instability and war. Consequently, these five markets are excluded from the analysis. Presumably they are being filtered out in the early screening process of US mutual fund investment decision. Despite the existence of a few funds with positive investment in Saudi Arabia, this country is excluded from the analysis because Saudi Arabia forbids direct foreign investment in the stock market, except for GCC citizens. Only foreign investments via Saudi Bank mutual funds or through SWAP arrangements are allowed (Ramady, 2010, p. 149). This data is unavailable, hence it is infeasible to identify Saudi firms with positive US investment.

The present analysis also excludes any mutual fund investment in MENA firms that are listed or co-listed outside MENA markets. As a result of this filter, Lebanon drops out of the sample. The rationale for such exclusions is due to the fact that these firms must adhere to investor protection

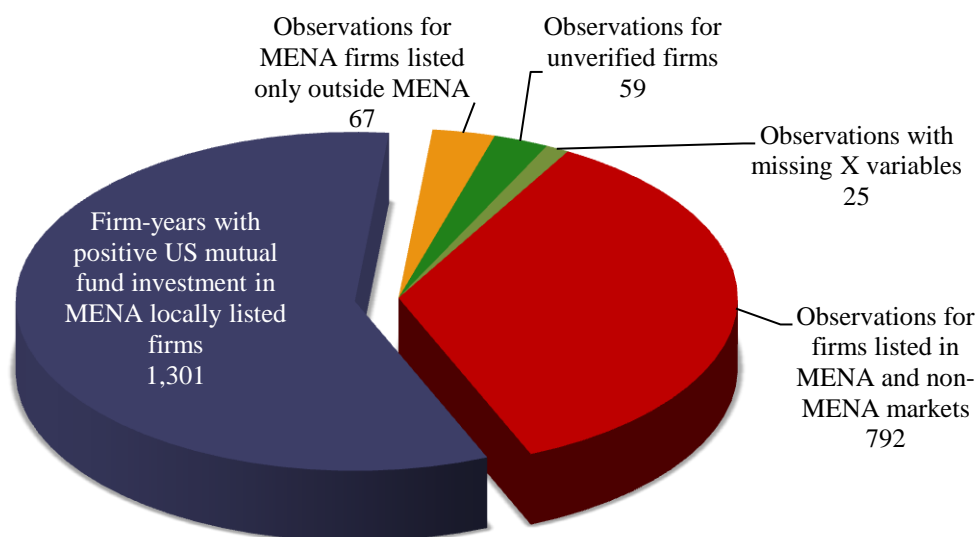
⁶⁸ There is no geographic segmentation of US holdings prior to 2008.

⁶⁹ The distribution of the fund reporting date is as follow:

Year 2008		30-Jun-08	31-Jul-08	31-Aug-08	30-Sep-08	31-Oct-08	30-Nov-08	31-Dec-08	Total funds
Count (%)		8 (5.1%)	6 (3.8%)	8 (5.1%)	72 (45.6%)	18 (11.4%)	42 (26.6%)	4 (2.5%)	158 (100.0%)
Year 2009		30-Jun-09	31-Jul-09	31-Aug-09	30-Sep-09	31-Oct-09	30-Nov-09	31-Dec-09	Total
Count (%)		3 (2.4%)	2 (1.6%)	3 (2.4%)	65 (51.6%)	25 (19.8%)	23 (18.3%)	5 (4.0%)	126 (100.0%)
Year 2010	31-Dec-09	30-Jun-10	31-Jul-10	31-Aug-10	30-Sep-10	31-Oct-10	30-Nov-10	31-Dec-10	Total
Count (%)	3 (1.9%)	2 (1.2%)	3 (1.9%)	8 (4.9%)	73 (45.1%)	45 (27.8%)	19 (11.7%)	9 (5.6%)	162 (100.0%)
Year 2011		30-Jun-11	31-Jul-11	31-Aug-11	30-Sep-11	31-Oct-11	30-Nov-11	31-Dec-11	Total
Count (%)		5 (2.1%)	6 (2.5%)	8 (3.4%)	98 (41.4%)	53 (22.4%)	66 (27.8%)	1 (0.4%)	237 (100.0%)
Year 2012		30-Jun-12	31-Jul-12	31-Aug-12	30-Sep-12	31-Oct-12	30-Nov-12	31-Dec-12	Total
Count (%)		1 (0.4%)	8 (2.9%)	6 (2.2%)	99 (36.4%)	41 (15.1%)	83 (30.5%)	34 (12.5%)	272 (100.0%)

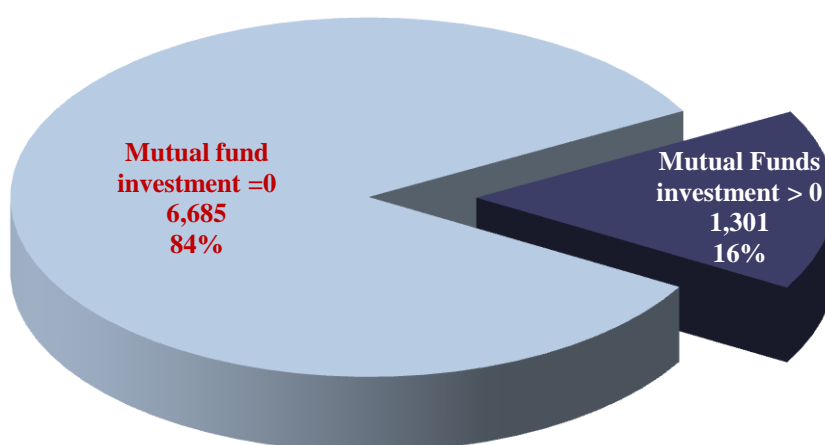
regulations in non-MENA markets and hence the local investor protection and security regulation in the MENA local markets becomes less relevant or its econometric impact is not clean. The funds' investment in each locally listed MENA firm is summed annually to obtain firm-year observation level data. Figure 3.1 shows the filters applied to the Morningstar® Principia® dataset to reach out to the US mutual fund investment in firms that are only listed in MENA markets.

Figure 3.1 Construction of the sample



Source: Thesis analysis.

Figure 3.2 MENA universe of investable firms



Source: Thesis analysis.

The universe of MENA investable firms is extracted from Bloomberg by identifying all primary MENA equity securities over the period 2008-2012 and deleting firms that are dual listed elsewhere. Figure 3.2 shows that the final sample includes a panel of 7,986 firm-year observations, 16% of which (1,301 firm-year) have positive mutual funds investment in 11 MENA countries (Bahrain, Egypt, Israel, Jordan, Kuwait, Morocco, Oman, Qatar, Tunisia, Turkey, and UAE) over the period 2008-2012.⁷⁰

3.3.2. Model

This essay tests whether US mutual fund investment in MENA firms follow predictions of the ‘Law and Finance’ theory by regressing measures of US mutual fund investment on legal environment and financial market development variables. To investigate the determinants of US mutual fund investment in MENA firms, the following model is estimated:

$$\begin{aligned}
 Investment_{jt} = & \beta_0 + \beta_1 Legal\ Environment_{k,t-1} + \beta_2 Financial\ Market\ Development_{k,t-1} \\
 & + \sum_{m=0}^3 \beta_{3+m} Firm - level\ Controls_{j,t-1} + \sum_{n=0}^2 \beta_{7+n} Country - level\ Controls_{k,t-1} \\
 & + \sum_{p=0}^3 \beta_{10+p} DYear_t + \sum_{q=0}^8 \beta_{14+q} DIndustry_j + \varepsilon_{j,t}
 \end{aligned}$$

Equation 1

($j = 1, 2 \dots, 1918$; $k = 1, 2 \dots 11$; $t = 2008, \dots, 2012$)

The subscript j refers to MENA firm, the subscript k refers to MENA country and the subscript t refers to year.

The dependent variable measures the mutual fund investment in MENA firm j at time t . The legal environment variables capture attributes of legal rules related to minority shareholder rights, law enforcement and legal origin for MENA country k at time $t-1$. The financial market development variable measures the dollar value of the stock market for MENA country k at time $t-1$. Firm-level controls used include investment theory variables reflecting size, liquidity, return and leverage of MENA firm j at time $t-1$. Country-level variables control for investment incentives or barriers that exist in MENA country k at time $t-1$. In particular, the presence of double taxation treaty with the US, capital controls imposed and the foreign currency exchange regimes are captured for MENA country k at time $t-1$. Time effects and industry effects based on a four digit GICS classification are included to account for possible heterogeneity in the data. Finally, $\varepsilon_{j,t}$ is the error term.

⁷⁰ This data is the aggregation of 438 US mutual funds investing in 391 unique locally listed MENA firms.

Equation 2 analyses the joint impact of financial market development and shareholder protection on US mutual fund investment. MENA firms are yearly classified according to their level of market development and shareholder protection, i.e., above or below the respective sample medians. Four groups are created: firms listed in MENA countries with both high (above the median) levels of financial market development and shareholder protection ($Hi_{MktDev}Hi_{InvPro}$); firms listed in MENA countries with high market development but low (below the median) shareholder protection ($Hi_{MktDev}Lo_{InvPro}$); vice versa ($Lo_{MktDev}Hi_{InvPro}$) and, firms listed in MENA countries with low financial market development and low shareholder protection ($Lo_{MktDev}Lo_{InvPro}$). These variables take a value of one if the firm belongs to the group, and zero otherwise. Since the four groups are mutually exclusive and collectively exhaustive, the estimated coefficients β_1 , β_2 and β_3 in equation 2 indicate the differences in the US mutual fund investment compared to the base case, $Lo_{MktDev}Lo_{InvPro}$ that is excluded from the regression.

$$\begin{aligned}
Investment_{jt} = & \beta_0 + \beta_1 Hi_{MktDev}Hi_{InvPro}_{k,t-1} + \beta_2 Hi_{MktDev}Lo_{InvPro}_{k,t-1} \\
& + \beta_3 Lo_{MktDev}Lo_{InvPro}_{k,t-1} + \sum_{m=0}^3 \beta_{4+m} Firm - level Controls_{j,t-1} \\
& + \sum_{n=0}^2 \beta_{8+n} Country - level Controls_{k,t-1} + \sum_{p=0}^3 \beta_{11+p} DYear_t \\
& + \sum_{q=0}^8 \beta_{15+q} DIndustry_j + \varepsilon_{j,t}
\end{aligned}$$

($j = 1, 2 \dots, 1918$; $k = 1, 2 \dots 11$; $t = 2008, \dots, 2012$)

Equation 2

Equations 1 and 2 only consider the country-level environment of corporate governance through the legal environment protecting shareholders. To examine if firms can adopt discretionary policies to signal their quality and overcome the legal environmental shortcomings at the country-level, we examine two observable firm discretionary policies: the adoption of IFRS⁷¹ and the appointment of a ‘big-four’ auditor. The effect of firm discretionary policies on US mutual fund investment is estimated in Equation 3. The model is independently estimated for each discretionary policy. Firm discretionary policy is a dummy variable equals 1 if the firm adopts IFRS/appoints a big-four auditor, and 0 otherwise. The coefficient β_1 provides a test of whether the US mutual fund investment in firms adopting IFRS or appointing a big-four auditor is different from their investment in firms that do not adopt IFRS or appoint a big-four auditor. The coefficient β_2 indicates the shareholder protection effect for firms that do not adopt IFRS or appoint a big-four auditor. The coefficient β_3 indicates the incremental effect for firms that adopt

⁷¹ IFRS analysis is applied to the sub-sample of countries where IFRS adoption is voluntary.

IFRS or appoint a big-four auditor. The sum of the coefficients β_2 and β_3 indicates the total effect of country-level shareholder protection on attracting foreign investment.

$$\begin{aligned}
Investment_{jt} = & \beta_0 + \beta_1 Firm\ Discretionary\ Policy_{j,t-1} + \beta_2 Investor\ Protection_{k,t} \\
& + \beta_3 Investor\ Protection_{k,t} Firm\ Discretionary\ Policy_{j,t-1} \\
& + \sum_{m=0}^3 \beta_{4+m} Firm\ -\ level\ Controls_{j,t-1} + \sum_{n=0}^2 \beta_{8+n} Country\ -\ level\ Controls_{k,t-1} \\
& + \sum_{p=0}^3 \beta_{11+p} DYear_t + \sum_{q=0}^8 \beta_{15+q} DIndustry_j + \varepsilon_{j,t}
\end{aligned}$$

Equation 3

$(j = 1, 2 \dots, 1918; k = 1, 2 \dots 11; t = 2008, \dots, 2012)$

Independent variables are lagged one year when appropriate in all models.

3.3.3. Variables

Table 3.2 presents the list of variables, their scales, predicted signs and sources. The dependent variable is measured using the US mutual fund investment in the MENA firm as a proxy for foreign investment. Two forms of dependent variable are used. A binary choice variable $DInvestment_{jt}$ which equals 1 if the MENA firm j has been selected by any US mutual fund in year t and zero in the absence of any investment. Another specification for the dependent variable uses the level of investment by US mutual funds in MENA firm in nominal USD. This specification is sensible given that the objective of the essay is to examine if the US mutual fund investment conforms to the ‘Law and Finance’ theory predictions. More precisely, the dependent variable, $Investment_{jt} = \ln(1 + \sum_{i=1}^{438} MF_i_Investment_{jt})$, is the log of the sum of dollars invested by US mutual funds in MENA firm j in year t and one is added in order to keep the observations that are zero.

The independent variables include the ‘Law and Finance’ theory variables previously described in Essay 1 (Section 2.4.4). The legal environment variables include shareholder protection, law enforcement and legal origin. Four indices that address agency problems and information asymmetry are used to measure minority shareholder protection rights. The extent of disclosure index relates to the disclosure requirements for related party transactions. The extent of director liability index measures the ability of minority shareholders to file a lawsuit and hold relevant parties of the approving body liable for prejudicial related party transactions. The ease of shareholder suits index quantifies shareholders’ ability to sue officers and directors for misconduct. The anti-director rights index measures the overall minority shareholder protection as stated in the statutes of each MENA country (constructed in Section 2.4.2.1). The first three indices are case-based survey measures of shareholder protection developed by the World Bank

and directed to financial lawyers. Rule of law is used as a measure of law enforcement and legal origin is used as a proxy for the legal system inherited from the colonial powers. Financial market development is measured using the logarithm of stock market capitalisation. The detailed construction and definitions of these variables are also presented in Table 2.6. Based on the ‘Law and Finance’ theory prediction, all of the variables are expected to be positively associated with US mutual fund investment.

The two firm discretionary policies variables, IFRS adoption and big-four auditor appointment, are dummy variables that take a value of one if the firm choose to select the policy or zero otherwise. Both variables are expected to be positively associated with US mutual fund investment.

Four firm-level control variables, derived from Bloomberg, relates to traditional investment theory are also included: size; liquidity; reward to risk; and, leverage. US mutual funds are expected to prefer to invest in large and liquid firms that offer high returns and they avoid investing in highly levered firms (Kang and Stulz, 1997; Aggarwal et al., 2005; Ferreira and Matos, 2008; Bushee et al., 2014). Large firms are better known internationally and information asymmetries between domestic and foreign investors are expected to be less important (Merton, 1987). Further, large firms’ shares are more liquid thus allowing investors to enter and exit the market at lower costs (Kang and Stulz, 1997, p. 5). In this essay, the size of the firm is measured using the natural logarithm of firm’s assets. Liquidity effects are acute in emerging markets (Bekaert and Harvey, 2003; Lagoarde-Segot and Lucey, 2008, p. 95) and poor liquidity in emerging markets is a major obstacle to foreign institutional investment (Berrill and Kearney, 2013, p. 337). Firm liquidity in the model is proxied by percentage trading measured as the number of days in which the trading volume for the security is greater than zero divided by the number of trading days for the market in which the security is traded. The reward to risk ratio measures the risk-adjusted return the MENA firm offers and is based on the average monthly returns for the last 12 months divided by the standard deviation of these returns. Monthly returns are used to avoid biases arising from non-trading days and non-synchronous trading hours and days among MENA markets and are measured in USD for comparability purposes. Several papers use risk-adjusted returns (Ahearne, Grier, and Warnock, 2004; Pendle, 2008; Diyarbakirlioglu, 2011; Lane and Milesi-Ferretti, 2008) and find a positive association with foreign equity investment confirming the return chasing behaviour. Finally, the debt to assets ratio is used as a proxy for leverage and is expected to be negatively associated with US investment because firms holding higher debt are perceived to be riskier.

Three country-level control variables are included that provide incentives or impose barriers to foreign investment in MENA. These measures are expected to artificially improve or restrict investment but are not specifically related to 'Law and Finance' predictions. Double taxation treaty is a dummy variable equal to 1 if the MENA country signed a double taxation treaty with the US, and zero otherwise. (Kang and Stulz, 1997) argue that the lack of tax harmonisation means that foreign investors often find it difficult to get refunds or credits for taxes paid abroad. Hence, a double taxation treaty reduces uncertainty around taxation issues and is expected to be positively associated with US mutual fund investment. Capital controls is a dummy variable equal to 1 if the MENA country imposes restrictions on foreign equity investment. Capital controls is expected to be negatively associated with US mutual fund investment and is commonly used in the literature as a measure of a direct barrier to foreign investment (Ahearne et al., 2004; Berkel, 2007). FOREX dummy equals 1 if the country operates a free float exchange rate regime, and zero otherwise. The literature documents that foreign investors prefer investing in countries with floating exchange rate regimes to avoid exposure to large currency devaluations (Aggarwal et al., 2005). Thus FOREX is expected to be positively associated with US mutual fund investment.

Table 3.2 List of variables for essay 2

	Proxy for	Variables	Scale	Expected sign (+/-)	Source
Dependent variable	Foreign investment	DInvestment _{jt}	Dummy (0,1)		Morningstar®Principia® (2008-2011)
		Investment _{jt}	Censored (0, +)		
Independent variables	‘Law and Finance’ Theory	Extent of disclosure index	(0-10)	+	World Bank (2014a)
		Extent of director liability index	(0-10)	+	
		Ease of shareholder suits index	(0-10)	+	
		Anti-director rights index	(0-6)	+	Developed in Essay 1, Section 2.4.2.1
		Law enforcement	Rule of law	(-2.5-2.5)	Kaufmann et al. (2013)
		Legal system	Legal origin	Dummy (0,1)	Zweigert and Kotz (1987)
		Financial market development	Stock market capitalisation	Continuous	World Bank (2014b)
	Firm-level controls	Firm’s Discretionary policy	IFRS	Dummy (0,1)	Bloomberg (2015)
			Big-four auditor	Dummy (0,1)	
		Size	Assets	Continuous	Bloomberg (2015)
		Liquidity	Percentage trading	Continuous	
		Return	Reward to risk	Continuous	
		Leverage	Debt to assets	Continuous	-
	Country-level controls	Taxation treaties	Double taxation treaty	Dummy (0,1)	Internal Revenue Service (2014)
		Capital controls	Capital Controls	Dummy (0,1)	International Monetary Fund (2007-2012)
		Foreign exchange	FOREX	Dummy (0,1)	

Source: Thesis analysis.

3.3.4. Estimation

Logistic and tobit regressions are used to estimate the models. Mutual funds investment is treated qualitatively as a binary choice variable indicating the presence or absence of mutual funds' investment in MENA firms for the logistic regressions where the dependent variable takes a value of 1 or zero with probabilities P and $1 - P$, respectively.

$$DInvestment_{jt} = \begin{cases} 1 & \text{if } \sum_{i=1}^{438} MF_i_Investment_{jt} > 0 \\ 0 & \text{if } \sum_{i=1}^{438} MF_i_Investment_{jt} = 0 \end{cases}$$

Equation 4

$(j = 1, 2 \dots, 1918; t = 2008, \dots, 2012)$

The non-linear dependent variable, $DInvestment_{jt}$ is transformed with respect to the natural logarithm of the odds ratio, $\ln(P/(1 - P))$. The logistic model uses the maximum likelihood method for estimation. The general form of the logistic regression is $\ln(P/(1 - P)) = \beta X + \varepsilon$ where β represents the vector of slope parameters of the independent variables vector X and ε represents the random error term.

The slope coefficients in the logistic model measure the change of the log-odds, $\ln(P/(1 - P))$, in favour of the occurrence of an event given a unit change in the value of the corresponding independent variable. The sign of the coefficient indicates the direction of the change in the probability. However, using the logistic model leads to information loss as it ignores the scale of the investment.

Investment is observable only for mutual funds that have voluntarily reported to Moningstar[®] Principia[®]. The absence of any mutual fund investment transforms the dependent variable for those firm observations to zero. The reported US mutual fund investment in MENA firms is observed to be positive in 16% of cases and zero with an 84% probability. This type of data is censored from below. Wooldridge (2010, p. 667) refers to this phenomenon as a 'corner solution response' where the corner in the essay data is set at zero. Censoring may indicate a sample selection bias (Fu, Winship, and Mare, 2004, p. 410) where the observed zeros reflect both true zero values or censored data values. In such circumstances, OLS estimation is inappropriate because the dependent variable of mutual fund investment in MENA has a continuous distribution over the strictly positive values, but heavy clustering at zero occurs due to the absence of observed investments. Using OLS models for censored data produces biased and inefficient estimates and violates the BLUE conditions. Greene (2012) advances that tobit estimates are more reliable than least squares estimates if censoring is a significant data issue. As

the number of zeros relative to total sample increases, both bias and inefficiency in the OLS estimates increase. Alternatively, the exclusion of zeros in the sample produces biases in the regression results because the sample is unrepresentative of the population and the excluded zero observations contain information as to why US mutual funds do not invest in such firms (Cameron and Trivedi, 2010, p. 535). To tackle this censoring problem, tobit models are used to estimate the determinants of US mutual fund investment into MENA stock markets. Unlike the logistic regression which models the probability of investment, the tobit regression models the intensity of investment.

The tobit model is a non-linear estimator that uses a mixture of a discrete distribution for the censored observations and a continuous distribution over the non-censored observations.⁷² The tobit model is a combination of two models: a probit model that considers the discrete decision of whether the firm is selected by any US mutual fund or not; and, the continuous decision related to investment value (Tobin, 1958, p. 25). The tobit estimator yields unbiased coefficient estimates for corner solution outcomes. Tobit model assumes that the same variables determine the discrete and continuous decision and takes the following form:

$$Investment_{jt} = \begin{cases} Investment_{jt}^* = \beta X_{jt} + \varepsilon_{jt} & \text{if } \beta X_{jt} + \varepsilon_{jt} > 0 \\ 0 & \text{if } \beta X_{jt} + \varepsilon_{jt} = 0 \end{cases}$$

($j = 1, 2 \dots, 1918$; $t = 2008, \dots, 2012$)

Equation 5

where $Investment_{jt}$ is the dependent variable; $Investment_{jt}^*$ is the latent variable (uncensored) of $Investment_{jt}$ that is unobserved if $\beta X_{jt} + \varepsilon_{jt} = 0$; X_{jt} is the vector of independent variables; β is a vector of estimated parameters; and, ε_{jt} is a random error term that is assumed to be independently and normally distributed with a mean of zero and constant variance (Breen, 1996). The tobit model is estimated using the maximum likelihood procedure. The log-likelihood function for a tobit model with a zero threshold is:

$$\ell = \sum_{y_i=0} \ln [1 - \Phi(\frac{x_i' \beta}{\sigma})] + \sum_{y_i>0} \ln [\phi(\frac{y_i - x_i' \beta}{\sigma})]$$

Equation 6

where $\Phi(.)$ is the cumulative distribution function of the standard normal distribution and $\phi(.)$ is the probability density function of the standard normal distribution. The log-likelihood function

⁷² Several papers investigating determinants of investment and the home-bias puzzle use tobit estimation: Daude and Fratzscher (2008); Berkel (2007); Beugelsdijk and Frijns (2010); Chou et al. (2014); Lane and Milesi-Ferretti (2008); Bushee et al. (2014); Giofré (2014); Leuz et al. (2009); Anwar and Sun (2015); Lemi, (2003); and, Beugelsdijk and Frijns (2010) among others.

is then maximised with respect to the parameters B and σ (Wooldridge, 2010, p. 786; SAS Institute Inc). In all the reported results, standard errors are adjusted to correct for heteroskedasticity and clustered to account for the correlation within firms.

3.4. Empirical analysis

Section 3.4.1 documents US mutual fund investment in MENA, presents the summary statistics of the sample and the correlation structure between the variables. Additionally, frequency tables for the US mutual fund investment by shareholder protection are reported. Means tests for the US investment and firm characteristics for different combinations of financial development and shareholder protection are then described. Section 3.4.2 presents the empirical results for the multivariate regressions that examine whether the US mutual fund investment follows predictions consistent with the ‘Law and Finance’ theory. The multivariate regressions also illustrate the joint impact of shareholder protection and financial market development on US mutual fund investment. Finally, the effect of firm discretionary policies in attracting US mutual funds is considered. In all tables ^{***}, ^{**} and ^{*} denote significance at 1%, 5% and 10% levels, respectively.

3.4.1. Descriptive statistics

3.4.1.1. US mutual fund investment in MENA

This section documents the US mutual fund investing in MENA in terms of the types of mutual funds, the value of their investment and the number of funds investing in MENA countries and sectors over the period 2008-2012. Table 3.3 classifies the funds based on their prospectus objective. There are 438 funds investing in MENA of which 24.89% are diversified emerging market funds and 24.43% are foreign stock funds. Table 3.4 presents the distribution of the mutual funds based on the equity style box reported by Morningstar® Principia®. Large MENA firms are attractive investments for US mutual funds where 68% of the US mutual funds investing in large MENA firms. However, there is no clear preference for US mutual funds towards value or growth firms.

Table 3.3: Prospectus objective for the US mutual funds investing in MENA

Prospectus objective	Count	Percent
Diversified Emerging Markets	109	24.89
Foreign Stock	107	24.43
Growth	75	17.12
World Stock	25	5.71
Growth and Income	23	5.25
Small Company	22	5.02
Specialty-Real Estate	14	3.20
Asset Allocation	10	2.28
Balanced	7	1.60
Equity Income	7	1.60
Europe Stock	7	1.60
Income	6	1.37
Specialty-Natural Resources	6	1.37
Specialty-Financial	5	1.14
Aggressive Growth	3	0.68
Multi-Asset Global	2	0.46
Pacific Stock	2	0.46
Specialty-Precious Metals	2	0.46
Specialty-Unaligned	2	0.46
Specialty-Utilities	2	0.46
Specialty-Communication	1	0.23
Specialty-Health	1	0.23
Total	438	100

Source: Thesis analysis.

Table 3.4: Equity style box for the US mutual funds investing in MENA

Equity style box	Large	Medium	Small	Count	Percent
Value	54	17	13	84	19.2%
Blend	167	41	13	221	50.6%
Growth	76	43	13	132	30.2%
Count	297	101	39	437[†]	100.0%
Percent	68.0%	23.1%	8.9%	100.0%	

Source: Thesis analysis.

[†] Classification of one fund is missing.

Panel A of Table 3.5 shows US mutual funds' total investment value in locally listed firms for each MENA country for the sample period. Over the five year period, investment grew at a compounded annual growth rate (CAGR) of 12% per annum. The investment value dropped 14% in 2009 but then surged 30% in 2010, as strong economic performance took hold in MENA countries. Panel B of Table 3.5 shows the number of US mutual funds investing in each MENA country. Over the same period, the number of funds investing grew at a CAGR of 10% per annum. A small proportion of US mutual funds withdrew from MENA stock markets during the GFC, as the number of funds investing in 2009 is 6% lower than the prior year. This observation

is similar to that reported for major emerging Asian and Latin American markets which received increasing portfolio flows prior to the GFC, however, the portfolio flows shrank at the onset of the crisis (Ahmed and Zlate, 2014, p. 224). More recently, however, the trend of US mutual funds investing in MENA is on the rise, which reflects the importance of the region as a destination for foreign investment. The percentage of US mutual fund investment in MENA is less than 1% of the market capitalisation of locally listed firms, which suggests that financial market development in MENA is driven by domestic prospects rather than by global trends (World Bank, 2011, p. 48).

The quantum of US mutual fund investment and the number of funds investing in MENA are presented in Figure 3.3 and Figure 3.4, respectively. There has been an increasing trend of US investment value in Turkey since 2008 with a profound increase in 2012 accompanying the promulgation of the new Turkish Commercial Code. The US mutual fund investment in Turkey accounted for 36% of the overall investment in MENA in 2012. Both Turkey and Israel are popular investment locations, as reflected by the number of funds investing there. Investment in both UAE and Qatar accounted for 56% of total US investment in 2008. Egypt witnessed a decline in US mutual fund investment in 2010 and 2012 which is expected due to political instability. However, this decline in investment value is not accompanied with a decline in the number of funds investing in Egypt. The rest of the US mutual fund investment in MENA countries shows an increasing value at a slow pace, except for Oman, with the number of funds investing being relatively flat. Bahrain and Tunisia attracts the least funds in the region.

Classification of US mutual fund investment by sector is presented in Table 3.6 and presented graphically in Figure 3.5 and Figure 3.6. The financial sector attracts the highest US mutual fund interest measured by dollars invested and number of funds. This is not surprising as the financial sector represents over 55% of the market capitalisation in the MENA region and accounts for 40% of the total number of firms. Additionally, the MENA banking sector was relatively resilient compared to other economies during the GFC and banking share of total capitalisation in MENA strengthened further during GFC (World Bank, 2011, p. 59). Industrials and materials follow banking as second and third next attractive sectors for US mutual fund investment. Comparatively, health care and information technology attracts the least investment, both of which accounts for less than 3% in the total market capitalisation in the MENA.

Table 3.5 US mutual fund investment in MENA by country (2008-2012)

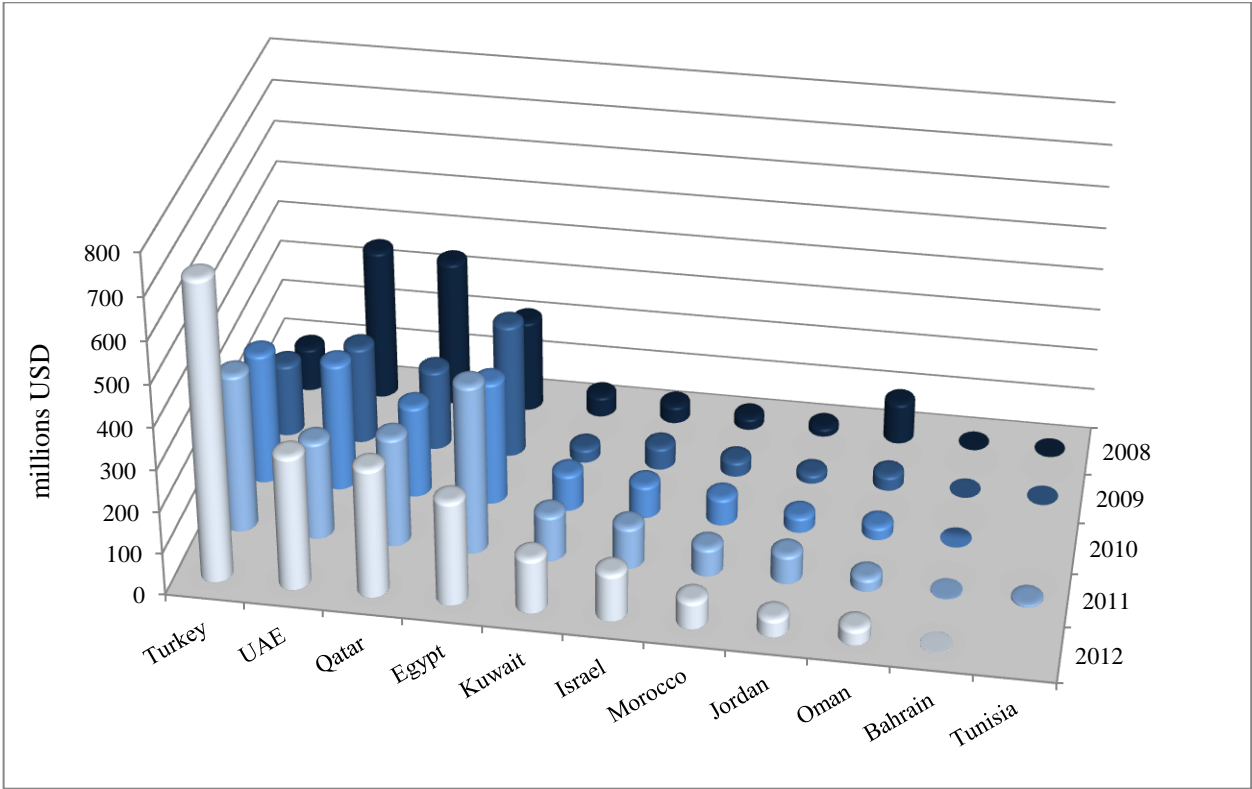
<i>Panel A: Value of US mutual fund investment (million USD)</i>						<i>Panel B: Number of US mutual funds⁷³</i>				
Country	2008	2009	2010	2011	2012	2008	2009	2010	2011	2012
Bahrain	0.77	0.47	0.48	1.65	0.95	6	3	2	3	2
Egypt	221.27	322.38	295.73	403.14	248.27	155	176	218	234	199
Israel	40.54	52.74	77.44	98.42	112.08	143	124	204	190	258
Jordan	19.48	20.30	36.48	67.37	42.29	44	36	32	37	34
Kuwait	48.00	32.26	87.43	108.83	129.98	54	66	92	101	112
Morocco	27.16	35.07	64.14	65.76	65.27	76	68	79	77	86
Oman	98.02	34.54	30.15	29.42	36.96	55	56	41	43	47
Qatar	351.82	193.11	219.75	261.29	307.78	107	95	92	115	128
Tunisia	0.77	0.06	-	5.86	-	2	1		5	
Turkey	104.32	174.97	313.68	377.98	714.16	292	249	344	442	562
UAE	364.09	234.00	306.33	233.69	319.45	149	135	136	149	178
Total	1,276.24	1,099.88	1,431.62	1,653.41	1,977.19	1,083	1,009	1,240	1,396	1,606
<i>Annual growth</i>		-14%	30%	15%	20%		-7%	23%	13%	15%
<i>CAGR</i>					12%					10%
MENA market capitalisation ⁷⁴	424,172	508,541	568,888	474,008	515,149					
<i>Annual growth</i>		20%	12%	-17%	9%					
US mutual fund investment to market cap of locally listed MENA firms	0.30%	0.22%	0.25%	0.35%	0.38%					

Source: Thesis analysis.

⁷³ The unit is fund-firm-year.

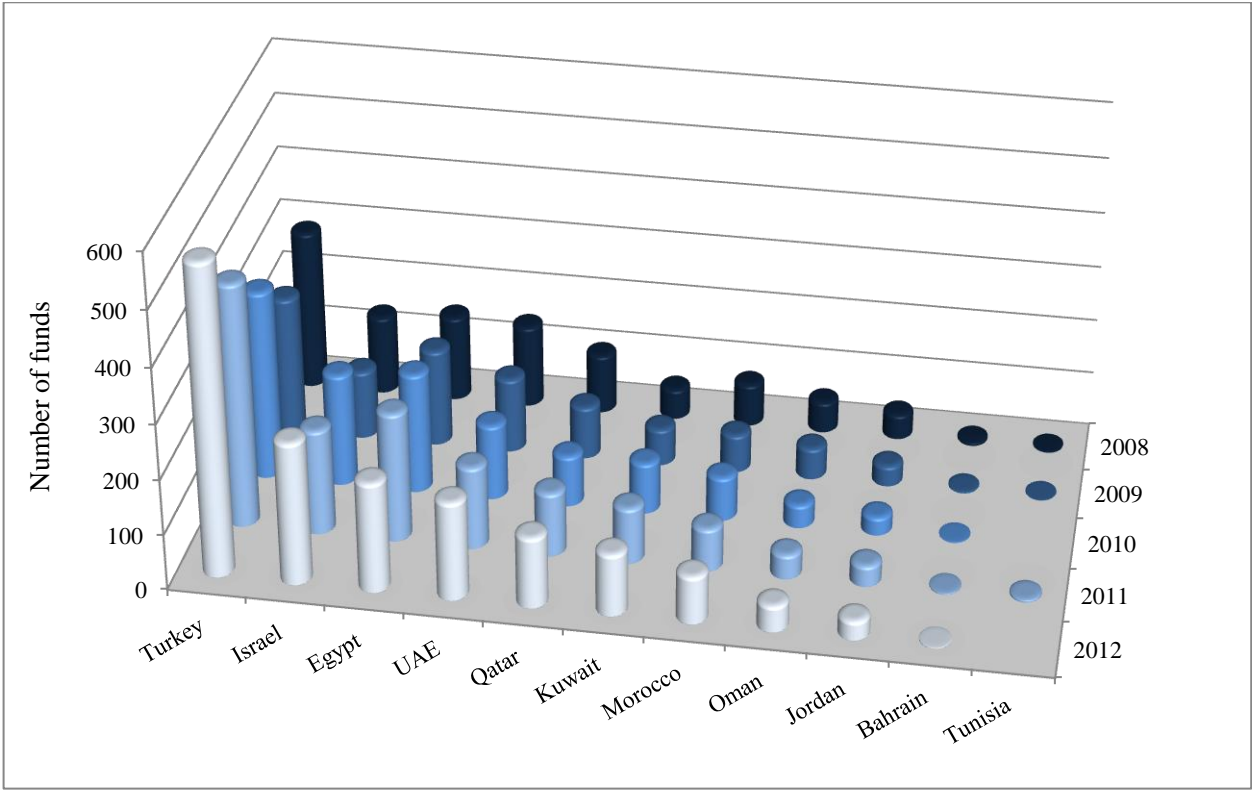
⁷⁴ Market capitalisation for locally listed MENA firms only.

Figure 3.3 US mutual fund investment in MENA by country (2008-2012)



Source: Thesis analysis.

Figure 3.4 Number of US mutual funds in MENA by country (2008-2012)



Source: Thesis analysis.

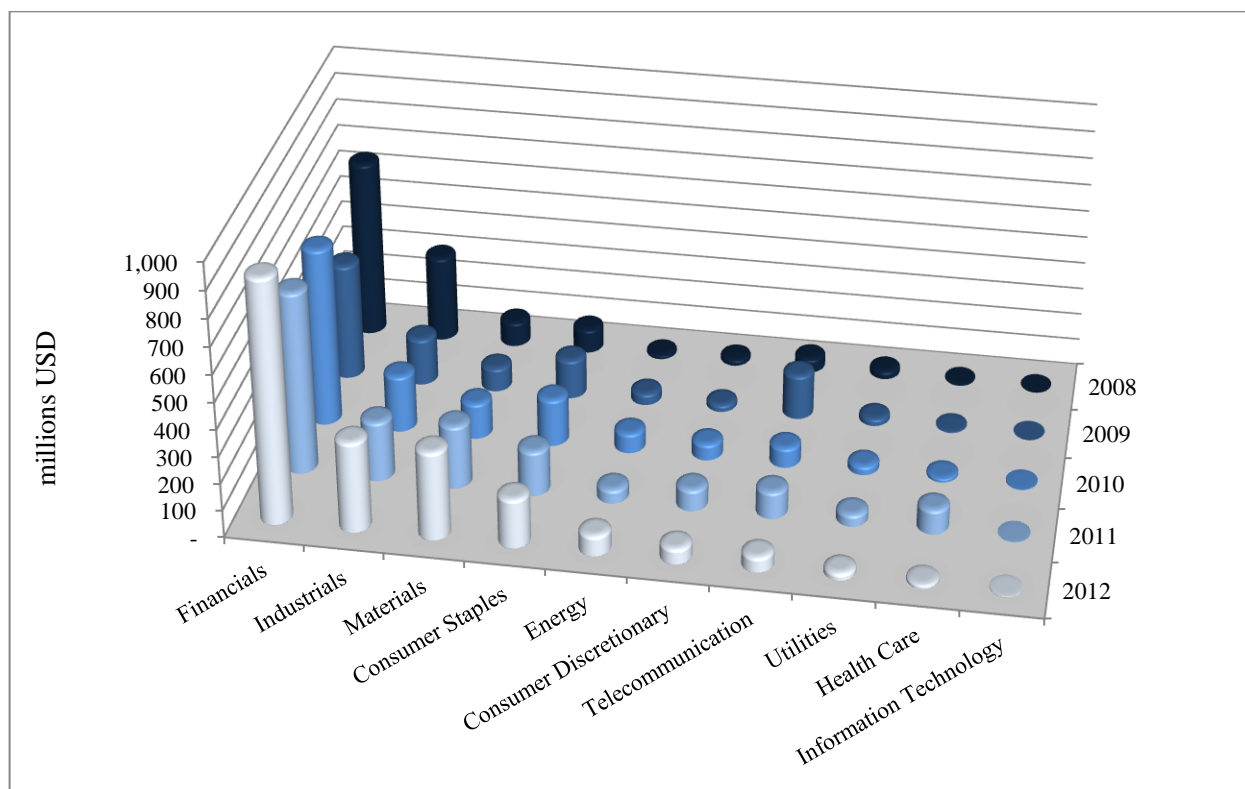
Table 3.6 US mutual fund investment in MENA by sector (2008-2012)

<i>Panel A: Value of US mutual fund investment (million USD)</i>						<i>Panel B: Number of US mutual funds⁷⁵</i>					
GICS Sector	2008	2009	2010	2011	2012	2008	2009	2010	2011	2012	
Consumer Discretionary	21.30	24.71	58.48	77.80	56.82	92	67	107	102	97	
Consumer Staples	87.15	144.97	174.22	165.56	181.46	71	68	91	112	141	
Energy	13.63	40.17	71.75	49.31	75.02	53	75	91	67	84	
Financials	661.39	433.87	664.06	675.81	902.71	418	418	525	598	717	
Health Care	4.88	5.79	14.70	89.14	15.09	9	10	20	34	13	
Industrials	320.49	174.43	210.33	220.89	334.99	184	129	140	157	198	
Information Technology	0.89	0.30	2.90	1.81	3.29	2	3	12	6	13	
Materials	89.71	86.35	132.49	233.09	326.96	174	154	180	237	277	
Telecommunication Services	49.64	164.84	71.95	98.14	54.71	43	48	37	49	31	
Utilities	27.17	24.45	30.75	41.87	26.14	37	37	37	34	35	
Total	1,276.24	1,099.88	1,431.62	1,653.41	1,977.19	1,083	1,009	1,240	1,396	1,606	

Source: Thesis analysis.

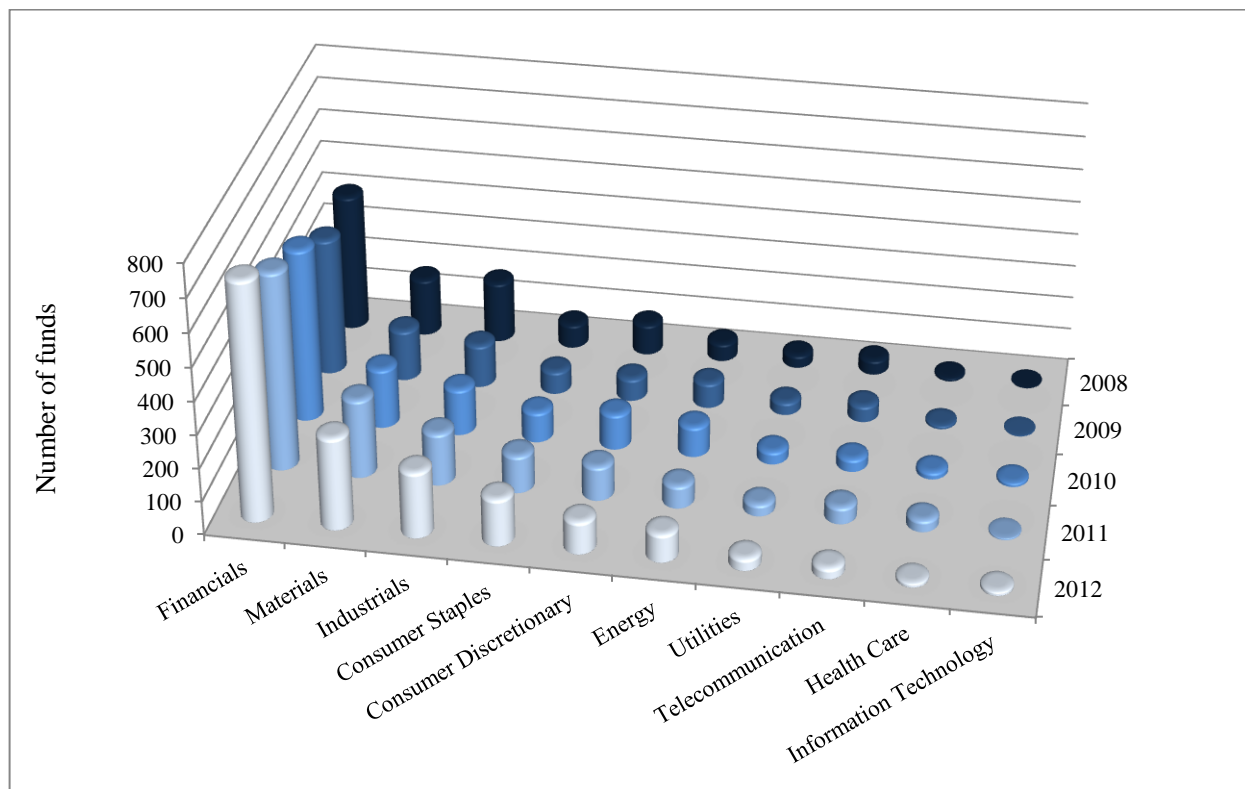
⁷⁵ Fund-firm-year.

Figure 3.5 US mutual fund investment in MENA by sector (2008-2012)



Source: Thesis analysis.

Figure 3.6 Number of US mutual funds in MENA by sector (2008-2012)

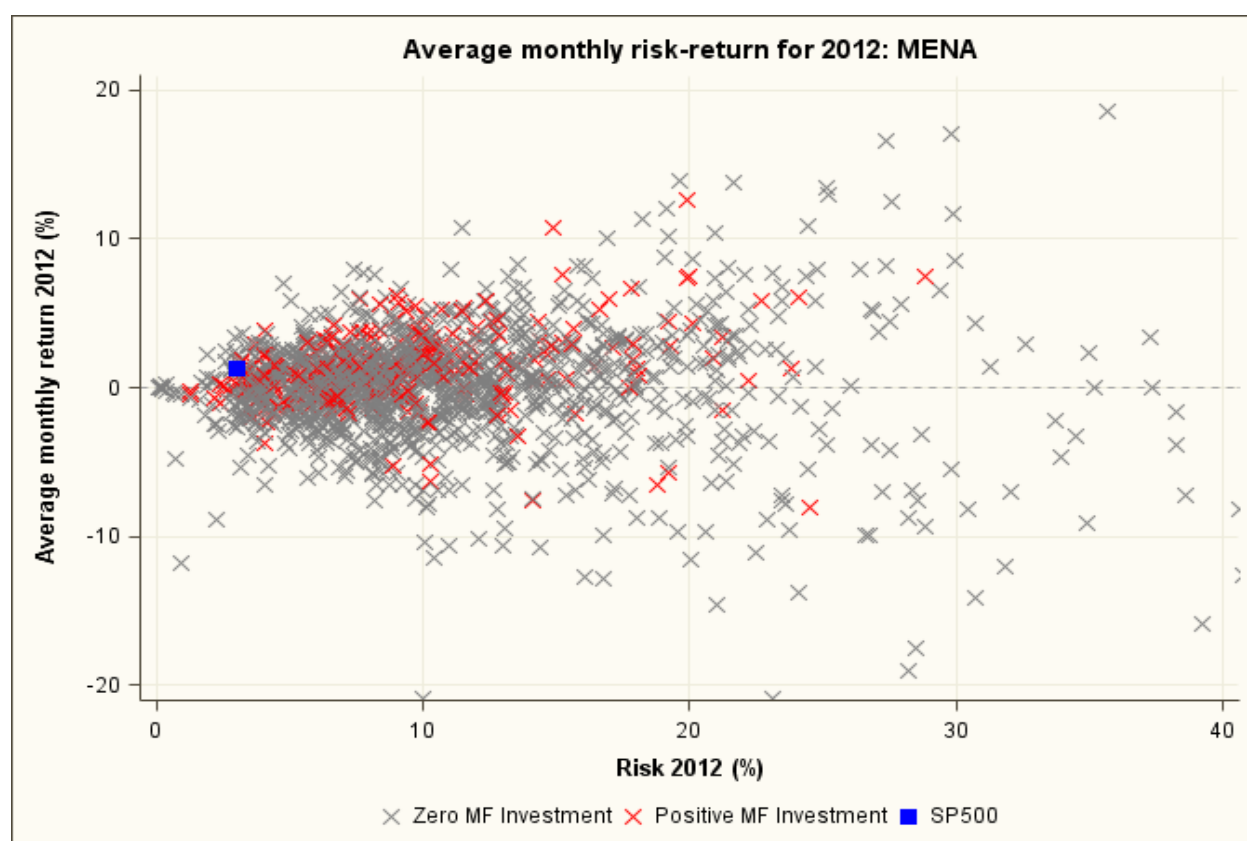


Source: Thesis analysis.

Table 3.7 reports the number of potentially investable MENA firms that are locally listed in MENA stock markets relative to the number of firms that have attracted US mutual fund investment in each country each year. The shades on the last column indicate whether there has been a decreasing (red) or increasing (green) trend between 2008 and 2012. Over the years, the US mutual funds invest in 15%-17% of the locally listed MENA firms. They invested in over 55% of Qatari firms, 36% of Emirati firms and 30% of Turkish firms in 2012. However, US mutual funds do not have investments reported by Morningstar® in Tunisian firms and invested in only one firm, a widely acclaimed outlier, Ahli United Bank in Bahrain in 2012.⁷⁶

Figure 3.7 shows the risk and return profile for the locally listed MENA firms in 2012 relative to S&P500 index (shown as a blue square). The graph reveals that MENA firms offer an array of investment opportunities for US mutual funds. The observed US mutual fund investments in 2012 (shown as red crosses) demonstrate that 67% of their investment generated positive returns in MENA firms.

Figure 3.7 Risk and return profile for MENA firms



Source: Thesis analysis.

⁷⁶ According to the Bank's website, the bank earned several awards in 2012: 'Best Bank in the Middle East' and 'Best Private Bank in Bahrain' from Euromoney, 'Best Bank in Bahrain' from Global Finance and Euromoney, 'Bank of the Year' from The Banker, 'Best Foreign Exchange Provider in the Middle East' by Global Finance, 'Elite Quality Recognition Award' from JP Morgan Chase, and 'STP Award' from Commerzbank AG. Further, 55% of Ahli United Bank's shares are freely floated in 2012, which is considered relatively high percentage compared to other MENA firms (Bloomberg, 2015).

Table 3.7 MENA firms and US mutual fund investment (2008-2012)

Country	2008			2009			2010			2011			2012		
	# investable firms	Firms with positive investment	%	# investable firms	Firms with positive investment	%	# investable firms	Firms with positive investment	%	# investable firms	Firms with positive investment	%	# investable firms	Firms with positive investment	%
Bahrain	33	5	15%	28	3	11%	25	2	8%	23	2	9%	23	1	4%
Egypt	152	30	20%	179	29	16%	166	31	19%	176	32	18%	185	29	16%
Israel	513	45	9%	496	42	8%	469	39	8%	446	37	8%	433	40	9%
Jordan	172	14	8%	180	14	8%	201	11	5%	207	13	6%	198	12	6%
Kuwait	170	22	13%	168	26	15%	185	35	19%	170	37	22%	170	34	20%
Morocco	66	17	26%	73	17	23%	72	17	24%	69	18	26%	70	19	27%
Oman	101	19	19%	105	18	17%	98	14	14%	98	17	17%	94	17	18%
Qatar	35	15	43%	41	19	46%	40	17	43%	40	19	48%	40	22	55%
Tunisia	43	2	5%	47	1	2%	48			44	1	2%	47		
Turkey	232	65	28%	232	46	20%	227	65	29%	232	67	29%	235	71	30%
UAE	83	27	33%	78	26	33%	73	26	36%	77	26	34%	78	28	36%
Total	1,600	261	16%	1,627	241	15%	1,604	257	16%	1,582	269	17%	1,573	273	17%

Source: Thesis analysis.

3.4.1.2. Univariate analysis

The descriptive statistics for the 7,986 MENA firm-year observations over the period 2008-2012 are presented in Table 3.8. The mean (median) US investment in MENA firms is USD0.93 (USD0.00) million for the whole sample and USD5.71 (USD1.31) million for the sub-sample of positive US investment. The wide range of investment value is evident from the standard deviation figures. The skewness and kurtosis statistics show that the variable $Investment_{jt}$ is non-normal and exhibit positive skewness. The kurtosis statistic for the variable $Investment_{jt}$ for the entire sample is 224, indicating a tall and narrow distribution due to the clustering at zero. The kurtosis for the variable $Investment_{jt}$ for the positive sample is 36 indicating a leptokurtic distribution where observations are tightly clustered within a relatively narrow range of values.

Shareholder protection indices measured in terms of the extent of disclosure, the extent of director liability and the ease of shareholder suits, all range from 0 to 10 whereas the anti-director rights index ranges from 0 to 6. The mean (median) score is 5.95 (7.00) for the extent of disclosure index, 6.08 (5.00) for the extent of director liability index, 4.44 (3.00) for the extent of shareholder suit index and 2.76 (2.50) for the anti-director rights index. The mean (median) of the law enforcement measured by the rule of law is 0.44 (0.51) with standard deviation of 0.39.

Financial market development is diverse between MENA countries. The mean (median) values of stock market capitalisation are USD127,243 (USD117,930) million with a standard deviation of USD81,357 million.

The mean (median) size of MENA firms measured by firm assets is USD955 (99) million yielding a mean (median) reward to risk ratio of -0.09 (-0.05) during the period. The mean (median) liquidity as measured by the percentage trading of the stock is 74% (89%). The mean (median) debt level is 29% (17%) of assets.

Table 3.8 Descriptive statistics for essay 2

		Variables	# Obs	Mean	Median	Standard deviation	Skewness	Kurtosis
Foreign investment		Investment _{it} (million USD) (all sample)	7,986	0.93	0.00	6.45	13.60	224.89
		Investment _{it} (million USD) (positive sample)	1,301	5.72	1.31	15.12	5.53	36.06
Legal environment	Investor protection	Extent of disclosure index	7,918	5.95	7.00	1.91	-0.31	-0.25
		Extent of director liability index	7,918	6.08	5.00	2.57	0.08	-1.68
		Ease of shareholder suits index	7,918	4.44	3.00	3.16	0.56	-1.37
		Anti-director rights index	7,986	2.76	2.50	0.69	0.29	0.44
	Law enforcement	Rule of law	7,986	0.44	0.51	0.39	-0.33	-1.11
	Financial market development	Stock market capitalisation (million USD)	7,986	127,243.35	117,929.86	81,356.82	0.37	-0.83
Firm-level controls		Assets (million USD)	7,986	955.41	98.65	4,267.26	10.28	134.11
		Percentage trading	7,986	0.74	0.89	0.31	-0.93	-0.50
		Reward to risk	7,986	-0.09	-0.05	1.83	-29.69	1,905.52
		Debt to assets	7,986	29.45	17.44	220.38	74.70	6,150.02

Source: Thesis analysis.

Further descriptive statistics per country are presented in Table 3.9. The mean for the total US mutual fund investment at the country level ($Investment_{kt}$) is highest in Egypt (USD298.16 million) and UAE (USD291.51 million) and lowest in Bahrain (USD0.86 million). The mean US mutual fund investment at the firm level ($Investment_{jt}$) is highest in Qatar (USD14.50 million) and UAE (USD10.96 million) and lowest in Tunisia (USD1.67 million) and Bahrain (USD0.33 million).

Investor protection figures show that Turkey dominates the list for the extent of disclosure with a mean score of 8.50 while Tunisia has the lowest mean score of 2.00. When shareholder protection is measured relative to director liability index, both Kuwait and Israel top the list with a mean score of 9.00 while Morocco has the lowest mean score of 2.00. Israel tops the list with respect to the ease of shareholder suits with a mean score of 9.00 whereas the GCC countries are at the bottom of the list with a mean score of 2.00. Finally, anti-director rights index is highest in Qatar with a score of 4.50 and lowest in Jordan with a score of 1.50.

The law enforcement variable shows that Israel dominates the countries in terms of the average rule of law (0.87) while Turkey has the lowest average score in the sample (0.08). Three countries in the sample belong to common law legal origin: Bahrain; Israel; and, UAE. The rest of the countries belong to French civil law legal origin. Turkey and Israel are the most financially developed markets with average stock market capitalisation of USD227,743 million and USD183,189 million, respectively.

IFRS is required for listed firms in Bahrain, Israel (except banking institutions), Jordan, Kuwait, Oman, Qatar, and UAE. The listed firms in Turkey, Egypt, and Tunisia may use IFRS. IFRS is permitted in Morocco but it is compulsory for banks and financial institutions (PricewaterhouseCoopers, 2014). 96% and 84% of the firms in Bahrain and UAE appoint a big-four auditor whereas only 35% of the firms in Egypt do so.

The average assets for MENA firms is the highest in UAE (USD5,688 million) and lowest in Oman (USD315 million). Turkey and Qatar are the most liquid MENA markets with average percentage trading for firms listed in Istanbul and Qatar stock exchanges are 0.99 and 0.91, respectively. The average reward to risk is highest in Qatar (0.09) and lowest in Morocco (-0.33). Israeli firms are the most levered firms in the region with debt to asset ratio of 51.30 whilst Jordanian and Egyptian firms are the least with debt to asset ratios of 13.9 and 12.79, respectively.

Five MENA countries signed a double taxation treaty with the US: Egypt since 1980; Israel since 1975; Morocco since 1977; Tunisia since 1985; and, Turkey since 1996 (Internal Revenue Service, 2014).

Capital controls are concentrated in the GCC countries. According to the IMF's Annual Report on Exchange Arrangements and Exchange Restrictions, Bahraini law allows only the citizens of GCC countries to invest freely in the stock market; others may own up to 49%. Kuwait capital controls apply to banks and financial institutions where non-Kuwaiti are not allowed to own more than 5% of the capital of any bank subject to Central Bank of Kuwait supervision. In UAE, at least 51% of the shares of corporations must be held by UAE nationals or organisations. Qatar limits foreign nationals' ownership to 25%. Oman laws require that foreign ownership of shares of Omani firms is generally limited to 70%. A non-resident portfolio investor may not hold more than 10% of the shares in an Omani firm. The rest of the MENA countries do not impose capital controls on foreign investment in their stock markets (International Monetary Fund, several editions 2007-2012).

Only Israel and Turkey have free-floating currencies, the rest of the MENA countries operate on a pegged or managed exchange rate regime. Tunisia dinar was classified by the IMF as floating in 2007-2009, then the IMF classification changed to peg regime (International Monetary Fund, several editions 2007-2012).

Table 3.9 Descriptive statistics by country

Variables	Bahrain	Egypt	Israel	Jordan	Kuwait	Morocco	Oman	Qatar	Tunisia	Turkey	UAE
Investment _{kt} country-level (USD million)	0.86	298.16	76.24	37.18	81.30	51.48	45.82	266.75	1.34	337.02	291.51
Investment _{jt} firm-level (USD million)	0.33	9.87	1.88	2.91	2.64	2.92	2.70	14.50	1.67	5.37	10.96
Extent of disclosure index	8.00	4.60	7.00	4.00	4.00	5.20	8.00	5.00	2.00	8.60	4.00
Extent of director liability index	4.00	3.00	9.00	4.00	9.00	2.00	5.00	6.00	5.40	4.00	6.00
Ease of shareholder suits index	2.00	3.00	9.00	1.00	2.00	1.00	2.00	2.00	6.00	4.00	2.00
Anti-director rights index	4.00	3.00	2.50	1.50	3.00	2.50	4.00	4.50	2.50	3.20	2.50
Rule of law	0.51	0.17	0.87	0.33	0.61	0.22	0.61	0.84	0.10	0.08	0.44
Legal origin	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Stock market capitalisation (USD million)	20,765	89,261	183,189	33,395	122,328	66,679	19,053	101,731	8,238	227,743	126,604
IFRS	1.00	0.01	0.96	0.99	1.00	0.25	1.00	1.00	0.01	0.15	0.99
Big-four auditor	0.96	0.35	0.72	0.39	0.57	0.65	0.71	0.87	0.38	0.48	0.84
Assets (USD million)	2,089	492	453	402	1,629	922	315	3,952	712	383	5,688
Percentage trading	0.41	0.84	0.68	0.73	0.65	0.70	0.47	0.91	0.82	0.99	0.68
Reward to risk	0.02	-0.21	-0.03	-0.20	-0.17	-0.33	0.04	0.09	0.04	0.01	-0.11
Debt to assets	14.07	12.79	51.30	13.90	25.94	26.34	25.95	17.57	26.80	24.06	15.99
Double taxation treaty	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00
Capital controls	1.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00
FOREX	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.60	1.00	0.00

Source: Thesis analysis.

3.4.1.3. Bivariate analysis

Table 3.10 presents Pearson correlation coefficients between the variables. As predicted by the model specification in Table 3.2, $Investment_{jt}$ and $DInvestment_{jt}$ are positively associated with the following country-level characteristics: extent of disclosure index; anti-director rights index; and, stock market capitalisation. Further, both $Investment_{jt}$ and $DInvestment_{jt}$ are negatively associated with the extent of director liability index, the ease of shareholder suits index, legal origin and rule of law which is contrary to the model's prediction.

With respect to discretionary policies, the evidence is mixed. Both $Investment_{jt}$ and $DInvestment_{jt}$ are positively associated with the presence of a big-four auditor but negatively associated with IFRS, which is inconsistent with the model prediction.

$Investment_{jt}$ and $DInvestment_{jt}$ are both positively associated with the size and liquidity measured by the assets and the percentage trading, respectively. The $Investment_{jt}$ for the sub-sample of positive investment is positively associated with the reward to risk ratio and negatively associated with debt to assets. The direction of the correlation is consistent with the classical investment theory prediction and emerging market literature. Contrary to the model's prediction, $Investment_{jt}$ and $DInvestment_{jt}$ are negatively associated with double taxation treaty and foreign exchange regime dummy and positively associated with capital controls.

The frequency for the MENA firm-year observations by shareholder protection level (below and above the median) is presented in Table 3.11. There are 1,301 firm-year observations with positive US mutual fund investment, 70% (917 firm-year) of which are in firms listed in MENA countries with high disclosure requirements, 58% (755 firm-year) in firms operating in MENA countries that make it easy for shareholders to hold directors liable for misconduct, 90% (1,168 firm-year) in firms that trade in MENA countries with ease of litigation against directors and 62% (809 firm-year) in firms that operate in MENA countries characterised by high anti-director rights. Overall, these observations reveal that US mutual fund investments are made more substantially in firms listed in MENA countries that offer better shareholder protection.

Table 3.10 Pearson correlation matrix

Variables	Investment _{jt} All sample (USD million)	Investment _{jt} Positive sample (USD million)	DInvestment _{jt}	Extent of disclosure index	Extent of director liability index	Ease of shareholder suits index	Anti- director rights index	Rule of law	Legal origin	Market capitalisation
Investment _{jt} All sample (USD million)	1.00									
Investment _{jt} Positive sample (USD million)	-	1.00								
DInvestment _{jt}	-	-	1.00							
Extent of disclosure index	0.04***	-0.03	0.04***	1.00						
Extent of director liability index	-0.10***	-0.17***	-0.09***	0.11***	1.00					
Ease of shareholder suits index	-0.12***	-0.19***	-0.11***	0.44***	0.68***	1.00				
Anti-director rights index	0.16***	0.10***	0.15***	0.41***	-0.06***	-0.10***	1.00			
Rule of law	-0.09***	-0.14***	-0.09***	0.19***	0.87***	0.60***	-0.03**	1.00		
Legal origin	-0.09***	-0.10***	-0.08***	0.26***	0.68***	0.80***	-0.20***	0.69***	1.00	
Stock market capitalisation	0.07***	0.01	0.07***	0.45***	0.42***	0.50***	0.05***	0.23***	0.41***	1.00
IFRS	-0.05***	-0.11***	-0.04***	-0.07***	0.60***	0.16***	-0.21***	0.75***	0.44***	-0.03**
Big-four auditor	0.14***	0.10***	0.13***	0.12***	0.20***	0.15***	0.11***	0.24***	0.24***	0.11***
Assets	0.50***	0.37***	0.49***	-0.15***	0.03***	-0.16***	0.20***	-0.02**	-0.02**	0.03***
Percentage Trading	0.30***	0.12***	0.30***	0.07***	-0.20***	-0.03**	0.01	-0.25***	-0.17***	0.17***
Reward to risk	0.01	0.09***	0.01	0.03***	0.02	0.03**	0.03***	0.03**	0.02	-0.02
Debt to assets	-0.01	-0.07**	-0.01	0.03***	0.05***	0.06***	-0.01	0.05***	0.05***	0.03**
Double taxation treaty	-0.04***	-0.05*	-0.03***	0.44***	0.03**	0.68***	-0.01	-0.15***	0.31***	0.49***
Capital controls	0.11***	0.06**	0.11***	-0.21***	0.20***	-0.45***	0.51***	0.24***	-0.14***	-0.22***
FOREX	-0.06***	-0.10***	-0.05***	0.63***	0.42***	0.84***	-0.05***	0.37***	0.54***	0.60***

Source: Thesis analysis.

Table 3.8 Pearson correlation matrix

Variables	IFRS	Big-four auditor	Assets	Percentage trading	Reward to risk	Debt to assets	Double taxation treaty	Capital controls
IFRS	1.00							
Big-four auditor	0.19***	1.00						
Assets	0.02	0.29***	1.00					
Percentage trading	-0.30***	-0.01	0.25***	1.00				
Reward to risk	0.01	0.01	0.01	0.03**	1.00			
Debt to assets	0.02**	0.01	-0.07***	-0.03***	0.00	1.00		
Double taxation treaty	-0.51***	0.00	-0.16***	0.21***	0.01	0.03***	1.00	
Capital controls	0.39***	0.13***	0.33***	-0.22***	0.01	-0.02*	-0.76***	1.00
FOREX	-0.05***	0.10***	-0.18***	0.13***	0.04***	0.05***	0.72***	-0.54***

Source: Thesis analysis.

Table 3.11 Frequency table for investment by shareholder protection

		Low	High	Low	High
		Extent of disclosure index		Extent of director liability index	
Investment _{it} =0	Count (percent)	2,068 (25.9)	4,617 (57.8)	2,473 (31.0)	4,212 (52.7)
Investment _{it} >0		384 (4.8)	917 (11.5)	546 (6.8)	755 (9.5)
		Ease of shareholder suits index		Anti-director rights index	
Investment _{it} =0	Count (percent)	1,105 (13.8)	5,580 (69.9)	3,791 (47.5)	2,894 (36.2)
Investment _{it} >0		133 (1.7)	1,168 (14.6)	492 (6.2)	809 (10.1)

Source: Thesis analysis.

Table 3.12 reports the results of the means test for the US mutual fund investment and firm characteristics for the four groups $Hi_{MktDev}Hi_{InvPro}$, $Hi_{MktDev}Lo_{InvPro}$, $Lo_{MktDev}Hi_{InvPro}$ and $Lo_{MktDev}Lo_{InvPro}$. As two investor protection proxies are adopted, the results from the extent of disclosure index and anti-director rights are presented in Panel A and Panel B respectively.

Paired comparisons for the mean investment value in Panel A suggest that market development rather than shareholder protection attracting investment dollars and disclosure practices matter in least developed markets. The evidence suggests that well established markets with high disclosure regimes can attract 2.17x more US mutual fund investment than less established low disclosure regimes as $Hi_{MktDev}Hi_{Disclosure}$ attracted USD6,050,585 compared to USD2,787,246 for $Lo_{MktDev}Lo_{Disclosure}$ which is statistically different at 1%. The former is also statistically higher than intermediate sub-sample $Lo_{MktDev}Hi_{Disclosure}$ attracting USD4,149,502 (1.458x) at 5% significance, but not statistically different from the mean investment value in $Hi_{MktDev}Lo_{Disclosure}$ of USD6,578,329 (0.92x). When comparing less developed markets and highlighting disclosure differences $Lo_{MktDev}Hi_{Disclosure}$ attracts 48.9% more investment funds than $Lo_{MktDev}Lo_{Disclosure}$, reflecting a statistical difference in means at 1%. Overall, these result show a greater flow of funds to well established markets with higher disclosure regimes and an implied ranking of $Hi_{MktDev}Hi_{Disclosure}=Hi_{MktDev}Lo_{Disclosure}>Lo_{MktDev}Hi_{Disclosure}>Lo_{MktDev}Lo_{Disclosure}$ is identified.

The mean number of funds investing in $Hi_{MktDev}Hi_{Disclosure}$ is 5.608 which is significantly higher than the mean number of funds in all other sub-samples. This result is not surprising if US mutual funds can identify quality, safe, high return investments, follow a ‘herd mentality’ or are affected by qualitatively similar variables when making MENA investment decisions. It is also noteworthy that firms in $Hi_{MktDev}Hi_{Disclosure}$ sub-sample generate the highest reward to risk ratio (0.029). US mutual funds investment patterns also reveal that they select larger firms when investing in low disclosure regimes ($Hi_{MktDev}Lo_{Disclosure}$ and $Lo_{MktDev}Lo_{Disclosure}$) and smaller firms when investing in high disclosure regimes ($Hi_{MktDev}Hi_{Disclosure}$ and $Lo_{MktDev}Hi_{Disclosure}$). Hence, mutual funds trade-off firm size and disclosure intensity when deciding to invest, and smaller firms are opportunities to invest once the basic barrier to information asymmetries is overcome. Further, in less developed stock markets ($Lo_{MktDev}Hi_{Disclosure}$ and $Lo_{MktDev}Lo_{Disclosure}$), US mutual funds invest in lower leveraged firms. Finally, investments are still made in $Lo_{MktDev}Lo_{Disclosure}$ regimes but in such cases, US mutual funds select the most liquid investments.

Qualitatively similar results are reported in Panel B. The paired comparison demonstrates that market development and anti-director rights are complementary. Mutual fund investment is larger among the $Hi_{MktDev}Hi_{Anti-director}$ firms reporting a mean investment size of USD6,646,556 compared to the $Lo_{MktDev}Lo_{InvPro}$ firms reporting the lowest mean investment of USD2,784,364.

There is no statistical difference between the mean investment value in $Hi_{MktDev}Lo_{Anti-director}$ (USD5,380,051) and $Lo_{MktDev}Hi_{Anti-director}$ (USD4,896,563).

Evidence of the quantum of investments held by US mutual funds across the four investment categories is consistent with the ‘Law and Finance’ theory as firms in the $Hi_{MktDev}Hi_{InvPro}$ sub-sample attract a higher dollar investments compared with those in the $Lo_{MktDev}Lo_{InvPro}$ sub-sample. The two other sub-samples $Hi_{MktDev}Lo_{InvPro}$ and $Lo_{MktDev}Hi_{InvPro}$ still compete for investment dollars, indicating that financial market development and investor protection are complementary and both variables are important in securing foreign investments.

Table 3.12 Means test for financial market development and shareholder protection

	Investment _{jt}	Number of funds	Assets	Debt to assets	Percentage trading	Reward to risk
<i>Panel A: Extent of disclosure index</i>						
High Mkt Dev High Disclosure	6,050,585	5.608 ***	2,381	23.58	0.98 ***	0.029 ***
High Mkt Dev Low Disclosure	6,578,329	4.186	8,289 ***	22.57	0.93	-0.121
High Mkt Dev High Disclosure	6,050,585 **	5.608 ***	2,381	23.58 ***	0.98 ***	0.029 ***
Low Mkt Dev High Disclosure	4,149,502	4.010	2,416	19.68	0.87	-0.081
High Mkt Dev High Disclosure	6,050,585 ***	5.608 ***	2,381	23.58 ***	0.98	0.029 ***
Low Mkt Dev Low Disclosure	2,787,246	2.776	4,350 *	18.10	0.96	-0.088
High Mkt Dev Low Disclosure	6,578,329 **	4.186	8,289 ***	22.57 **	0.93 ***	-0.121
Low Mkt Dev High Disclosure	4,149,502	4.010	2,416	19.68	0.87	-0.081
High Mkt Dev Low Disclosure	6,578,329 ***	4.186 ***	8,289 ***	22.57 ***	0.93	-0.121
Low Mkt Dev Low Disclosure	2,787,246	2.776	4,350	18.10	0.96 **	-0.088
Low Mkt Dev High Disclosure	4,149,502 *	4.010 ***	2,416	19.68	0.87	-0.081
Low Mkt Dev Low Disclosure	2,787,246	2.776	4,350 *	18.10	0.96 ***	-0.088
<i>Panel B: Anti-director rights index</i>						
High Mkt Dev High Anti-director	6,646,556 *	5.300	3,232	20.72	0.96	0.002 **
High Mkt Dev Low Anti-director	5,380,051	4.924	6,038 ***	28.15 ***	0.96	-0.053
High Mkt Dev High Anti-director	6,646,556 *	5.300 ***	3,232 **	20.72	0.96 ***	0.002 ***
Low Mkt Dev High Anti-director	4,896,563	3.785	2,367	18.50	0.88	-0.126
High Mkt Dev High Anti-director	6,646,556 ***	5.300 ***	3,232	20.72	0.96 ***	0.002 *
Low Mkt Dev Low Anti-director	2,784,364	3.623	3,401	20.02	0.90	-0.042
High Mkt Dev Low Anti-director	5,380,051	4.924 ***	6,038 ***	28.15 ***	0.96 ***	-0.053 *
Low Mkt Dev High Anti-director	4,896,563	3.785	2,367	18.50	0.88	-0.126
High Mkt Dev Low Anti-director	5,380,051 ***	4.924 ***	6,038 ***	28.15 ***	0.96 ***	-0.053
Low Mkt Dev Low Anti-director	2,784,364	3.623	3,401	20.02	0.90	-0.042
Low Mkt Dev High Anti-director	4,896,563 **	3.785	2,367	18.50	0.88	-0.126
Low Mkt Dev Low Anti-director	2,784,364	3.623	3,401	20.02	0.90	-0.042 *

Source: Thesis analysis.

Panels A and B of Table 3.13 show the distribution of MENA firm-year observations with respect to two discretionary policies, the adoption of IFRS and the selection of a big-four auditor, respectively. There are 5,514 firm-year observations (69% of the sample) reporting under IFRS while the rest of the sample report according to their respective local accounting standards. 64% (838 of 1,301 firm-years) of US mutual fund investment is weighted towards firms adopting IFRS.

Seven MENA countries: Bahrain; Israel; Jordan; Kuwait; Oman; Qatar; and, UAE mandatorily require that all publicly traded firms report their financial statements according to IFRS. As a result, adopting IFRS in these countries is not a firm discretionary policy and are therefore excluded from further analysis. The second part of Panel A reports firms operating in Egypt; Morocco; Tunisia; and, Turkey where IFRS adoption is voluntary. There are 261 firm-year observations reporting under IFRS and US mutual funds invest in 43% (111 firm-years) of those observations.

Table 3.13 Frequency table for investment by discretionary policies

Panel A: IFRS						
	All sample	Investment _{it} >0	Percent	Voluntary IFRS	Investment _{it} >0	Percent
Discretionary policy=0	2,388	449	19%	2,298	435	19%
Discretionary policy=1	5,514	838	15%	261	111	43%
Missing	84	14	17%	36	11	31%
Total	7,986	1,301	16%	2,595	557	21%
Panel B: Big-four auditor						
	All sample	Investment _{it} >0	Percent			
Discretionary policy=0	2,887	298	10%			
Discretionary policy=1	4,235	856	20%			
Missing	864	147	17%			
Total	7,986	1,301	16%			

Source: Thesis analysis.

Panel B of Table 3.13 reports the frequency of firm-year observations by big-four auditor appointment. The figures in panel B reveal that 59% of the sample appoints a big-four auditor. The frequency of firm-years with positive US mutual fund investment (856 out of 1,301 firm-years) indicates a preference towards firms selecting a big-four auditor. It is worthy to note that the auditor's name for 11% (864 out of 7,986 firm-years) of the sample is missing.

3.4.2. Regression analysis

The logistic regression results examining the relationship between US mutual fund investment in MENA firms and the legal environment are presented in Table 3.14. In all cases, the null hypothesis that the coefficients of the logistic regression are jointly equal to zero is rejected on the basis of the chi-squared goodness to fit test-statistic.

Logit models 1-4 in Table 3.14 regress each shareholder protection index along with the rest of the variables on the US mutual fund investment dummy in MENA firms. The logistic regression results show that the coefficients on both disclosure (Logit 1) and anti-director rights (Logit 4) indices are positive and statistically significant at 1% level. However, the coefficients on both the extent of director liability (Logit 2) and the ease of shareholder suits (Logit 3) are negative and statistically significant at 1% level. Consistent with the model predictions, the exponential coefficients on shareholder protection variables suggest that, all other things equal, for a one-unit increase in the extent of disclosure and anti-director rights indices, the odds of a firm being selected by any US mutual fund increases by 43% and 54%, respectively.⁷⁷ However, the odds of the firm being selected by any US mutual fund decreases by 23% and 36% for a unit increase in the extent of director liability and the ease of shareholder suits indices, respectively, which is contrary to the ‘Law and Finance’ theory predictions. When all shareholder protection indices are regressed together (Logit 5-6), only the extent of disclosure index is positive and statistically significant at 1%. The positive association between the extent of disclosure index and US mutual fund investment decision is consistent with the prior literature (Aggarwal et al., 2005; Leuz et al., 2009; Ferreira and Matos, 2008; Aggarwal, Kearney, and Lucey, 2012) and reveals that information asymmetry in MENA countries is an important determinant in the investment decision of US mutual fund managers. Disclosure of self-dealing transactions is particularly important in MENA firms given the concentrated ownership structure and the prevalence of family business and family groups that creates an environment conducive to the agency problem. Hence, MENA countries that mitigate the information asymmetry for foreign investors via a high level of corporate disclosure are able to attract more US mutual fund investments. Further, the quality of the legal rules protecting minority shareholder rights as stated in the legislation is also an important determinant of US mutual fund investment.

Law enforcement as measured by the rule of law is positive and statistically significant at 1% level except when combined with the extent of disclosure index and anti-director rights index (Logit 1 and 4). When the overall ‘Law and Finance’ theory variables are considered collectively

⁷⁷ $(e^{0.3560}-1)*100=43\%$ for the extent of disclosure index and $(e^{0.4331}-1)*100=54\%$ for anti-director rights index.

(Logit 6) the exponential coefficients on the rule of law suggest that for a one-unit increase in the rule of law, the odds of the firm being selected by any US mutual fund increases by 431%. The result is consistent with the model predictions and also consistent with Chan et al. (2005) and Staats and Biglaiser (2011) but contrary to Ferreira and Matos (2008) finding that law and its enforcement are negatively related to attracting foreign institutions. The effect of law enforcement on US mutual fund investment decision highlights the fact that the quality of the law alone is insufficient to attract foreign investment unless it is empowered by enforcement that constrains corporate conduct (Testy, 1997).

The legal origin variable is statistically insignificant from zero in all cases but Logit 2, which is also contrary to the model predictions. Given that US mutual funds derive from an English common law legal origin, the theory predicts that US mutual funds tend to invest more in countries with the same legal origin. The irrelevance of the legal origin in MENA countries can be explained on two grounds. Legal origin is an imprecise measure reflecting history but no longer relevant as laws become more internationally standardised (Roe, 2006; Siems, 2007). Contemporary laws in MENA countries are able to overcome the colonial heritage of the legal origin and legislate to attract foreign investment due to the harmonisation of corporate governance practices pursued by the OECD and the World Bank. Further, should US mutual fund managers prefer common law legal origin, considering their investment in MENA only will not detect this preference since most MENA countries belong to French civil law legal origin.

Financial market development measured by the stock market capitalisation is positive and statistically significant at 1% level (Logit 1 and 2) and at 5% level (Logit 4). The average marginal effect for the stock market capitalisation is 0.023 where all covariates are at their observed values in the estimation sample, indicating that for each 10% increase in the stock market capitalisation, the probability that a US mutual fund invests increases by 23%.⁷⁸ When all the 'Law and Finance' variables are regressed together (Logit 5 and 6), the coefficient on the stock market capitalisation loses significance. The positive association between stock market development and the probability of foreign investment is consistent with Portes and Rey (2005), Aggarwal et al. (2012), Kim and Wu (2008), Daude and Fratzscher (2008) and Roque and Cortez (2014). The higher the depth and breadth of stock markets, the greater the choices available for foreign investors to diversify their portfolios. Further, developed stock markets operate at a low transaction cost and provide high liquidity which makes it easy to enter and exit the market.

The firm-level controls show that US mutual funds are more likely to invest in large and liquid MENA firms that generate positive returns and hold less debt. This result is consistent with the

⁷⁸ Marginal effect = $\partial \Pr(y = 1 | x) / \partial x$. The results are based on Logit 1 coefficients.

classic investment theory and emerging market literature (Kang and Stulz, 1997; Berrill and Kearney, 2013). This reveals that the reported Morningstar[®] Principia[®] data on US mutual fund investment focuses on stocks that clearly are easily traded, avoiding concerns about US mutual funds being ‘locked-into’ international share registries, and they can utilise with relative ease an ‘exit’ strategy if required.

Country-level controls show that the presence of a double taxation treaty with the US is not associated with US mutual fund investment in MENA. This result contradicts Kang and Stulz (1997) argument that foreign investors would find it difficult to get refunds for taxes paid abroad. The capital controls have no significant effect on US mutual fund investment, which is consistent with Ahearne et al. (2004) where barriers to capital inflows are diminishing in the world financial markets. The coefficient on the variable FOREX indicates that US mutual funds invest in firms that operate in countries with a pegged exchange rate regime, which is contrary to Aggarwal et al. (2005) who find that US mutual funds invest more in emerging markets with floating exchange rate regimes.

The tobit regression results for the effect of legal environment and financial market development on US mutual fund investment in MENA firms are quantitatively and qualitatively similar to the logistic regression results (see Appendix 6).

The interpretation of the logistic coefficients is not intuitive since the dependent variable is the log odds ratio. The effects of the independent variables on the probabilities are more informative than the logistic regression coefficients (Pampel, 2000, p. 19). Figure 3.8 shows the average predictive margins for shareholder protection indices estimated in Logit 1-4 in Table 3.14. The graphs in Figure 3.8 show how the probability of US mutual funds investing in MENA firms changes by each shareholder protection index. The top left and bottom right graphs show that firms operating in countries with low disclosure and anti-director rights indices with a score of 1 have a 6.6% and 10.8% probability of being a destination for US mutual fund investment, respectively. However, as the scores of the extent of disclosure and the anti-director rights indices increase, the predicted probability of investment rises. When the extent of disclosure and anti-director rights indices are at the maximum (10 and 6), the predicted probabilities of investment are 28.4% and 28.3%, respectively. In contrast, the top right and bottom left figures show that as the extent of director liability and the ease of shareholder suits indices increase the probability of the firm being a destination for US mutual fund investment decreases.

Figure 3.9 considers the average marginal effect for the interaction between shareholder protection and legal origin on US mutual fund investment. The blue line presents the effect of shareholder protection in MENA countries with civil law legal origin while the red line presents

the effect of shareholder protection on US mutual fund investment in MENA countries with common law legal origin.

The top left graph shows that the extent of disclosure index is important for US mutual fund investment decision particularly in MENA countries with French civil law legal origin. Below a certain threshold of 3.5 for the extent of disclosure index, US mutual funds are almost indifferent about the legal origin. However, when the extent of disclosure index increases above 3.5 the probability of investing in a country with French civil law legal origin increases more than the increase in the probability for countries with common law legal origin. The top right graph shows that the extent of director liability index has an opposite effect on the US mutual fund investment decisions by legal origin. The probability of a firm being selected by a US mutual fund is positively associated with the extent of director liability index in countries with common law legal origin. The opposite is true for MENA countries with French civil law legal origin. The graph on the bottom left indicates that the ease of shareholder suits index is almost irrelevant for US mutual fund investment decision in countries with common law legal origin. However, the probability of a firm being selected decreases as the score for the ease of shareholder suits index increases in countries with French civil law legal origin. Finally, the bottom right graph shows that the probability of a firm being selected by US mutual funds increases as the anti-director rights index increases in countries with French civil law legal origin, but it stays relatively flat for MENA countries with common law legal origin.

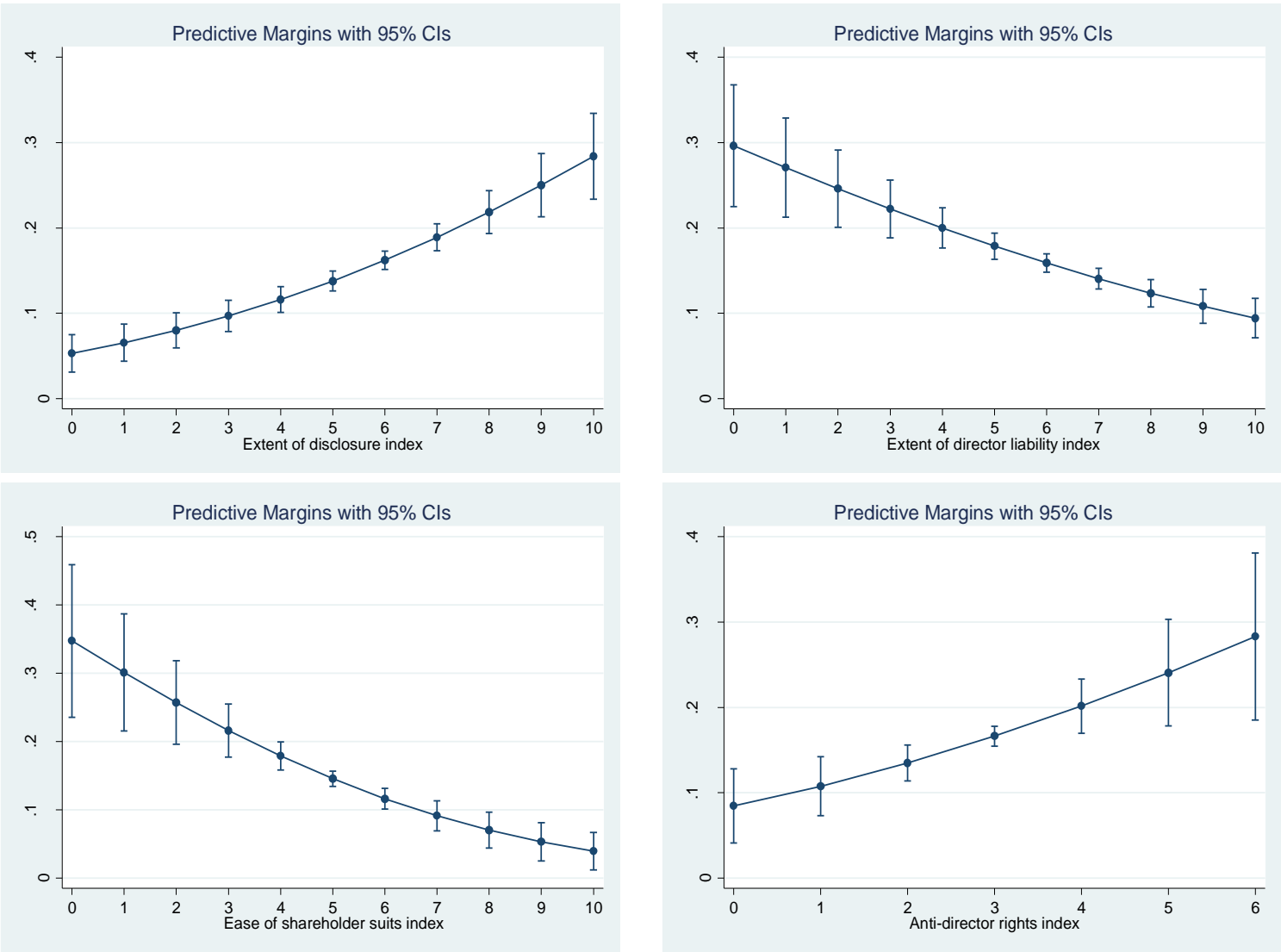
These graphical relationships indicate that US mutual funds consider pre-emptive rights more important when investing in French civil law legal origin countries and remedial rights more important when investing in English common law legal origin countries. The difference can be reconciled due to the prevailing dominance of common law in terms of law enforcement and the quality of legal rules protecting investors. Common law operates on a shareholder-governance model where information asymmetry between corporate manager and shareholders is resolved primarily through public disclosure of financial information. In contrast, the French civil law countries establish an informal network of relationships to perform the enforcement tasks in lieu of formal institutional arrangements (Habib, 2007, p. 2).

Table 3.14 Logistic results for investment, legal environment and financial market development

Dependent variable: $DInvestment_{it}$		Logit 1	Logit 2	Logit 3	Logit 4	Logit 5	Logit 6
<i>'Law and Finance' theory</i>	Extent of disclosure index	0.3560*** (0.062)				0.3133*** (0.063)	0.3545*** (0.077)
	Extent of director liability index		-0.2560*** (0.057)			0.0245 (0.104)	-0.1640 (0.186)
	Ease of shareholder suits index			-0.4441*** (0.111)		-0.2761 (0.202)	-0.0603 (0.237)
	Anti-director rights index				0.4331*** (0.153)		-0.5465 (0.367)
	Rule of law	0.3260 (0.355)	1.4556*** (0.451)	1.9336*** (0.535)	-0.1538 (0.338)	1.3344** (0.539)	1.6693*** (0.633)
	Legal origin	-0.4129 (0.267)	-0.5995** (0.265)	0.0047 (0.305)	-0.2140 (0.258)	-0.0707 (0.393)	-0.7768 (0.729)
	Stock market capitalisation	0.3153*** (0.112)	0.3825*** (0.114)	0.1102 (0.126)	0.2941** (0.118)	0.1691 (0.154)	0.2950 (0.216)
<i>Firm-level controls</i>	Assets	1.1614*** (0.070)	1.1153*** (0.067)	1.1041*** (0.067)	1.1222*** (0.068)	1.1520*** (0.070)	1.1563*** (0.095)
	Percentage trading	4.7101*** (0.569)	4.6288*** (0.561)	4.8726*** (0.557)	4.6276*** (0.565)	4.8159*** (0.558)	4.8141*** (1.083)
	Reward to risk	0.0924*** (0.028)	0.0727 (0.044)	0.0809** (0.035)	0.0864*** (0.032)	0.0867*** (0.033)	0.0880** (0.040)
	Debt to assets	-0.0166*** (0.004)	-0.0144*** (0.003)	-0.0160*** (0.003)	-0.0153*** (0.003)	-0.0165*** (0.004)	-0.0163*** (0.004)
<i>Country-level controls</i>	Double taxation treaty	-0.4109 (0.426)	0.1377 (0.429)	1.5890*** (0.602)	-0.9285** (0.468)	0.7349 (0.807)	0.9568** (0.413)
	Capital controls	-0.5854 (0.400)	0.2492 (0.395)	-0.1018 (0.389)	-0.9128* (0.490)	-0.5536 (0.437)	0.7265 (0.924)
	FOREX	-1.0113*** (0.377)	0.1611 (0.270)	0.6453** (0.294)	0.2169 (0.276)	-0.5968 (0.396)	-0.8693*** (0.301)
	Constant	-21.1958*** (2.999)	-20.4363*** (2.953)	-14.5856*** (3.287)	-19.4253*** (3.054)	-17.6008*** (3.781)	-19.6409*** (4.322)
	Industry and Time effects	Yes	Yes	Yes	Yes	Yes	Yes
	N	7,918	7,918	7,918	7,986	7,918	7,918
	Pseudo R-squared	46.43%	45.74%	45.63%	45.57%	46.57%	46.68%
	Log likelihood	-1877.41	-1901.53	-1905.44	-1932.01	-1872.55	-1868.75
	Chi-squared	454.13***	452.49***	485.23***	444.27***	486.27***	435.14***

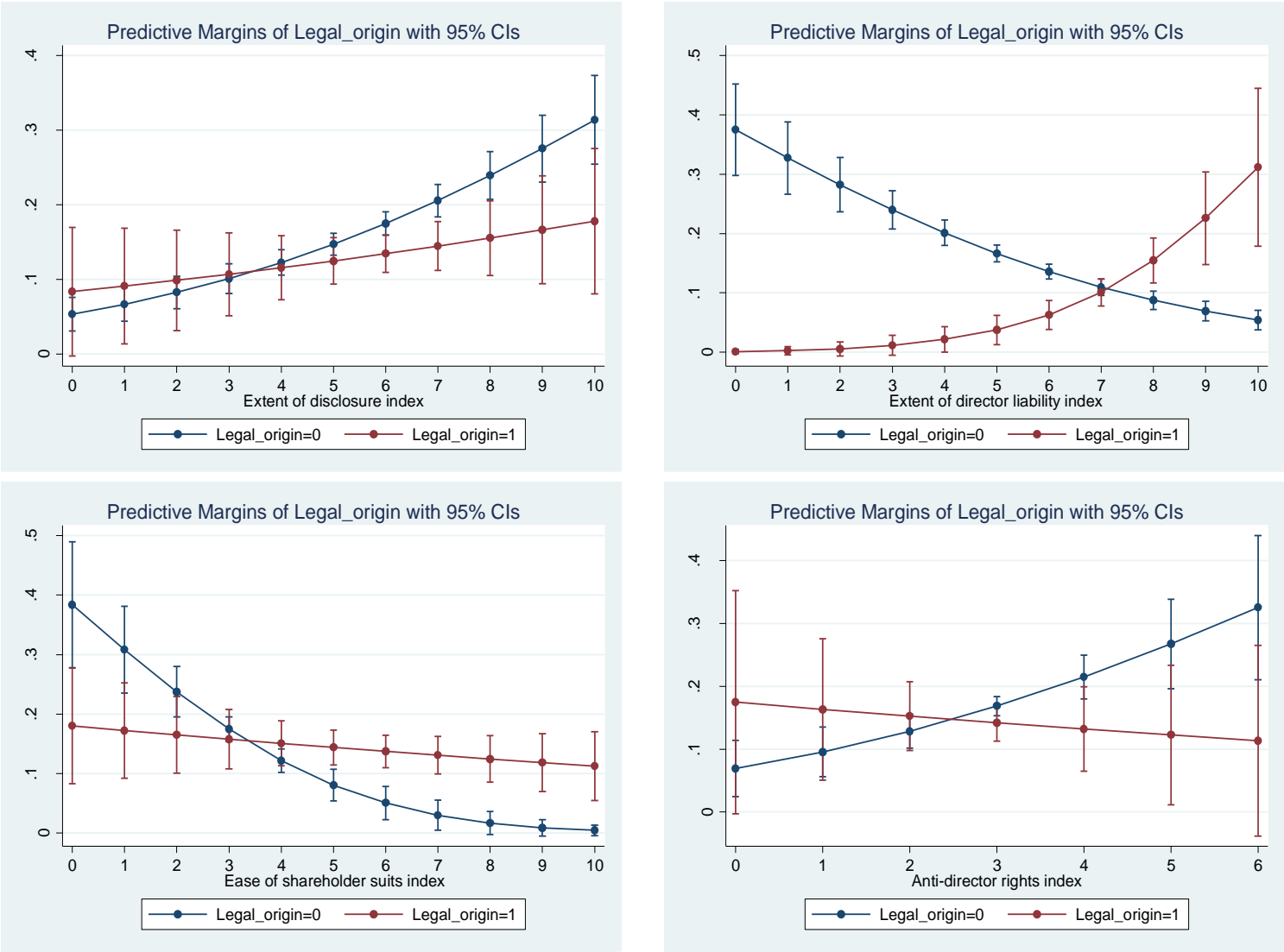
Source: Thesis analysis.

Figure 3.8 Predictive margins for shareholder protection indices



Source: Thesis analysis.

Figure 3.9 Predictive margins for shareholder protection indices by legal origin



Source: Thesis analysis.

The logistic regression results for the joint effect of financial market development and shareholder protection are presented in Table 3.15. These tests establish whether the US mutual funds follow investment practices according to ‘Law and Finance’ prediction and also identify which of the two aspects (financial market development vs. investor protection) matters most for the investment decision. Logit 1-3 are based on the extent of disclosure index whereas Logit 4-6 are based on the anti-director rights index as the basis for shareholder protection.

Logit 1-3 identify a ‘priority’ of preferred investment strategy. US mutual funds invest more frequently in well established markets with high disclosure regimes ($Hi_{MktDev}Hi_{InvPro}$) and also in well established markets with low disclosure regimes ($Hi_{MktDev}Lo_{InvPro}$), followed by less established markets with high disclosure regimes ($Lo_{MktDev}Hi_{InvPro}$) and have the lowest investment likelihood in less established markets with low disclosure regimes ($Lo_{MktDev}Lo_{InvPro}$). This ranking is derived from coefficient comparison and the Wald test results. In Logit 3, the coefficients on $Hi_{MktDev}Hi_{InvPro}$, $Hi_{MktDev}Lo_{InvPro}$ and $Lo_{MktDev}Lo_{InvPro}$ are statistically different from the base case $Lo_{MktDev}Hi_{InvPro}$. The signs of the coefficients in the first two cases are both positive and significant at 1% and 5 % which suggest that the joint effect of stock market development and disclosure leads to enhanced mutual fund investment. However, the impact of the negative coefficient in the lowest market and disclosure regime (significant at 1%) suggests that poor investment environments actively dissuade foreign investment in MENA stock markets

The Wald test result for the null hypothesis $\beta_1=\beta_2$ is not rejected, which indicates that the likelihood of US mutual funds investing in firms listed in countries with well established markets with high disclosure regimes ($Hi_{MktDev}Hi_{InvPro}$) is not statistically different from the likelihood of investing in firms listed in well established markets with low disclosure regimes ($Hi_{MktDev}Lo_{InvPro}$). The equality of the coefficients on $Hi_{MktDev}Hi_{InvPro}$ and $Hi_{MktDev}Lo_{InvPro}$ indicates that financial market development is more important than shareholder protection in attracting US mutual fund investment. However, the coefficients on $Lo_{MktDev}Lo_{InvPro}$ being lower than $Lo_{MktDev}Hi_{InvPro}$ indicate that disclosure matters particularly in less established MENA stock markets. The findings identify that financial market development and shareholder protection mechanisms are complementary factors.

Using anti-director rights index as the basis for shareholder protection in Logit 4-6, the likelihood of US mutual fund investment in MENA firms follows the following behaviour, $Hi_{MktDev}Hi_{InvPro}=Lo_{MktDev}Hi_{InvPro}=Hi_{MktDev}Lo_{InvPro}>Lo_{MktDev}Lo_{InvPro}$ for Logit 5 and 6. This result suggests that countries operating least developed markets and offering low minority shareholder rights (measured by the anti-director rights) attract the least foreign investment relative to the other groups.

Table 3.15 Logistic results for investment and the interaction between shareholder protection and financial market development

		Extent of disclosure index			Anti-director rights index		
Dependent variable: $DInvestment_{it}$		Logit 1	Logit 2	Logit 3	Logit 4	Logit 5	Logit 6
<i>'Law and Finance' theory</i>	$Hi_{MktDev}Hi_{InvPro} (\beta_1)$	-0.0451 (0.219)	0.3853* (0.224)	0.7877*** (0.212)	0.2991 (0.286)	-0.0159 (0.281)	0.3481 (0.288)
	$Hi_{MktDev}Lo_{InvPro} (\beta_2)$	-0.5116* (0.297)	0.3312 (0.274)	0.6162** (0.284)	-0.7805** (0.317)	0.4115 (0.367)	0.7255* (0.403)
	$Lo_{MktDev}Lo_{InvPro} (\beta_3)$	-2.7268*** (0.740)	-2.5513*** (0.738)	-2.1629*** (0.722)	-0.9824** (0.425)	-1.2403*** (0.418)	-1.2455*** (0.412)
	Legal origin		-1.1945*** (0.297)	-0.9861*** (0.300)		-1.6220*** (0.365)	-1.3768*** (0.374)
	Rule of law			-1.2721*** (0.384)			-1.3760*** (0.390)
<i>Firm-level controls</i>	Size	1.1061*** (0.066)	1.1633*** (0.069)	1.1625*** (0.070)	1.1566*** (0.069)	1.1806*** (0.070)	1.1832*** (0.071)
	Percentage trading	5.1565*** (0.561)	5.0704*** (0.572)	5.1323*** (0.568)	5.1643*** (0.576)	5.0393*** (0.564)	5.1212*** (0.561)
	Return to risk	0.0933*** (0.026)	0.0813* (0.043)	0.0783 (0.059)	0.0823** (0.040)	0.0606 (0.082)	0.0569 (0.103)
	Debt to assets	-0.0183*** (0.004)	-0.0195*** (0.004)	-0.0183*** (0.004)	-0.0189*** (0.004)	-0.0191*** (0.004)	-0.0180*** (0.004)
<i>Country-level controls</i>	Double taxation treaties	-2.6461*** (0.833)	-2.1440** (0.839)	-2.2444*** (0.839)	-0.1888 (0.489)	-0.2721 (0.491)	-0.7605 (0.495)
	Country capital controls	-2.2044*** (0.840)	-1.6581** (0.841)	-0.8281 (0.843)	-0.1003 (0.523)	-0.0296 (0.533)	0.4357 (0.558)
	FOREX	0.3316 (0.243)	0.6323** (0.259)	1.0372*** (0.306)	0.2699 (0.235)	0.4772* (0.248)	0.9757*** (0.303)
	Free trade agreements	0.0808 (0.193)	0.9653*** (0.275)	1.4785*** (0.297)	1.0093*** (0.286)	1.0153*** (0.288)	1.5909*** (0.294)
	Constant	-9.3888*** (1.288)	-10.6253*** (1.260)	-11.2741*** (1.286)	-12.5111*** (1.118)	-12.1312*** (1.090)	-12.4677*** (1.129)
	Industry and time effects	Yes	Yes	Yes	Yes	Yes	Yes

		Extent of disclosure index		
Dependent variable: $DInvestment_{jt}$		Logit 1	Logit 2	Logit 3
	N	7,986	7,986	7,986
	Pseudo R-squared	45.36%	46.28%	46.65%
	Log likelihood	-1939.27	-1906.77	-1893.68
	Chi-squared	466.76***	494.12***	481.69***
Wald test	$\beta_1=\beta_2$	Chi-squared	3.65**	0.06
	$\beta_1=\beta_3$	Chi-squared	14.58***	16.91***
	$\beta_2=\beta_3$	Chi-squared	9.13***	14.98***

Anti-director rights index		
Logit 4	Logit 5	Logit 6
7,986	7,986	7,986
45.92%	46.34%	46.78%
-1919.55	-1904.50	-1888.92
483.05***	480.28***	465.82***
11.44***	1.13	0.86
12.36***	10.41***	21.21***
0.31	17.45***	23.11***

Source: Thesis analysis.

Tobit regression results for the joint effect of financial market development and shareholder protection in Appendix 6 are quantitatively and qualitatively similar to the logistic results.

In summary, the fact that the coefficients on $LO_{MktDev}LO_{InvPro}$ being the lowest is consistent with the ‘Law and Finance’ theory whereas the fact that the coefficients on $Hi_{MktDev}Hi_{InvPro}$ are not always the largest coefficients of all is contradictory to the theory’s prediction. The joint effect of financial market development and the extent of disclosure index shows that financial market development is the most important factor to attract foreign investment followed by the extent of disclosure index. The anti-director rights index results show that US mutual funds avoid investing in countries operating least developed stock markets and offering the lowest minority shareholder protection. However, the investment is equally likely in all other groups.

The importance of disclosure for the investment decision poses the question whether firms operating in poor shareholder protection countries can adopt policies that signal their commitment to higher disclosure practices and attract foreign investment that ultimately lowers their cost of capital. The logistic regression results for two firm discretionary policies, adopting IFRS (Table 3.16) and selecting a big-four auditor (Table 3.17).

In terms of IFRS adoption, Logit 1 shows that the coefficient on IFRS is positive and statistically significant at 1% level. When the firm size is added into the regression (Logit 2), the coefficient on IFRS is positive and significant at 10% level. The loss of significance is expected because large firms are more likely to also adopt IFRS. These results indicate that the odds of a US mutual fund investing increases by 164% and 58% for MENA firms adopting IFRS. The adoption of IFRS provides reassurance of a common framework for accounting and financial disclosure which is valued by US mutual fund managers.

Logit 3 and 4 indicate the incremental effect for adopting IFRS. In Logit 3, the coefficient on the extent of disclosure index is positive and statistically significant at 1% level indicating a positive disclosure effect on the likelihood of investment for MENA firms that do not adopt IFRS. The coefficient on the interaction term $IFRS_disclosure$ is positive and statistically significant at 1% level, indicating that IFRS provides a positive signal of quality and disclosure which in turn increases the likelihood of US investment in MENA firms. The sum of the two coefficients on the extent of disclosure index and $IFRS_disclosure$ indicates the total effect of extent of disclosure index on the likelihood of US investment for firms adopting IFRS. The incremental effect is statistically insignificant from zero in Logit 4 due to the inclusion of firm size.

Logit 5 and 6 examine whether adopting IFRS in countries with high disclosure requirements affect the likelihood of US mutual funds investing in MENA firms.⁷⁹ The Wald test results in Logit 5 indicate that firms adopting IFRS and listed in countries with high disclosure requirement enhances the prospect of US mutual fund investment to a greater extent than firms that fail to adopt IFRS and still operate under the same disclosure environment. The IFRS effect disappears once the size of the firm is included in the regression (Logit 6).

Overall, foreign investor uncertainty about investment risk diminishes with IFRS adoption as financial reporting quality is enhanced and comparability of reports improves, which in turn substantially reduce the private costs of information processing for foreign investors. This result is consistent with Aggarwal et al. (2005) and Covring et al. (2007) findings that mutual fund ownership is higher in counties that voluntarily adopt IFRS but are contrary to Beneish, Miller, and Yohn (2010) and Beneish and Yohn (2008) findings that IFRS adoption does not affect investment in foreign equities.

The logistic regression results for the impact of selecting a big-four auditor on the investment decision is presented in Table 3.17. The coefficient on big-four is positive and statistically significant from zero at 1% level in Logit 1. However, the coefficient on big-four loses significance when the firm size is included in the regression (Logit 2). This is hardly surprising that since large firms are more likely to appoint a big-four auditor. The exponential coefficient on the big-4 dummy in Logit 1 is 3.00 suggesting that the odds of US mutual fund investing increases by 200% for firms choosing a big-four auditor.

Logit 3 and 4 show the incremental effect for selecting a big-four auditor. In Logit 3, the coefficient on the extent of disclosure index is statistically insignificant from zero indicating that disclosure does not affect the likelihood of investment for MENA firms that do not select a big-four auditor. This result is contrary to the previous results and also counterintuitive. The coefficient on the interaction term big-four_disclosure is positive and statistically significant at 1% level, indicating a 17% incremental effect on the likelihood of US investment for MENA firms selecting a big-four auditor. Once the firm size is included in the regression (Logit 4), the coefficient on the extent of disclosure index is positive and statistically significant from zero at 1% level indicating that disclosure positively affects the likelihood of investment for MENA firms that do not select a big-four auditor. However, the coefficient on big-four_disclosure effect is statistically insignificant from zero with firm size included.

⁷⁹ There are not enough firms in the sub-sample to test whether IFRS adoption is important in poor disclosure environment because this section uses only a sub-sample of MENA firms that operate in countries in which IFRS adopting is voluntary. The analysis excludes firms listed in countries where IFRS is compulsory as IFRS adoption in these countries is not a true choice.

Logit 5 and 6 show the effect of selecting a big-four auditor while operating in a country with a high disclosure requirement. The Wald test results indicate that selecting a big-four auditor in countries with a high disclosure requirement positively affirms the likelihood of investment. Logit 7 and 8 show the effect of selecting a big-four auditor while operating in a country with a low disclosure requirement. Logit 7 reveals that adopting a big-four auditor is advantageous for attracting foreign investment, but when firm size is controlled for in Logit 8, the effect of appointing a big-four auditor disappears.

These results are consistent with prior literature where big-four auditor appointment is associated with increased levels of mutual fund investment (Chou et al., 2014). Big-four auditor appointment is perceived as a solid mechanism to reduce agency problems as big-four auditors lend their internationally recognised reputation capital thereby protecting and signalling quality accounting disclosures. Consequently, the financial statements audited by the big-four are regarded as more reliable by investors. Thus, the appointment of a big-four auditor is interpreted by foreign investors as a signal of firm quality.

Table 3.16 Logistic results for investment and accounting standards selection

Dependent variable: $DInvestment_{it}$		Logit 1	Logit 2	Logit 3	Logit 4	Logit 5	Logit 6
<i>Firm discretionary policy</i>	IFRS	0.9707*** (0.215)	0.4543* (0.255)				
	Extent of disclosure index			0.2838*** (0.070)	0.4640*** (0.077)		
	IFRS_disclosure			0.0978*** (0.025)	0.0252 (0.030)		
	IFRS_Hi Disclosure (β_1)					1.3389*** (0.354)	1.0738** (0.431)
	No IFRS-Hi Disclosure (β_2)					0.2266 (0.192)	0.8197*** (0.251)
<i>Firm-level controls</i>	Size		1.0975*** (0.105)		1.1911*** (0.114)		1.1280*** (0.109)
	Percentage trading	2.7969*** (0.649)	1.8836*** (0.609)	2.4979*** (0.628)	1.5061** (0.602)	2.7028*** (0.665)	1.6840*** (0.612)
	Return to risk	0.1013 (0.207)	0.0154 (0.021)	0.1618 (0.210)	0.0453 (0.108)	0.0935 (0.216)	0.0243 (0.028)
	Debt to assets	-0.0064* (0.004)	-0.0165*** (0.005)	-0.0061* (0.003)	-0.0190*** (0.006)	-0.0065* (0.004)	-0.0166*** (0.005)
<i>Country-level controls</i>	FOREX	0.2184 (0.233)	0.8594*** (0.273)	-0.7936** (0.335)	-0.6188* (0.366)	0.2676 (0.228)	0.8026*** (0.271)
	Free trade agreements	0.8517** (0.361)	0.5665 (0.399)	0.7821** (0.352)	0.3726 (0.390)	0.7151* (0.375)	0.4574 (0.412)
	Constant	-3.1993** (1.386)	-8.8439*** (1.212)	-3.6496*** (1.325)	-10.6964*** (1.416)	-3.1064** (1.394)	-9.2267*** (1.260)
	Industry and time effects	Yes	Yes	Yes	Yes	Yes	Yes
	N	2,559	2,559	2,559	2,559	2,435	2,435
	Pseudo R-squared	10.83%	34.92%	11.73%	38.00%	10.50%	35.06%
	Log likelihood	-1182.82	-863.31	-1170.96	-822.45	-1156.58	-839.17
	Chi-squared	113.20***	209.16***	115.60***	202.19***	94.00***	184.90***
Wald test $\beta_1=\beta_2$	Chi-squared					14.11***	0.50

Source: Thesis analysis.

Table 3.17 Logistic results for investment and auditor selection

Dependent variable: $DInvestment_{it}$		Logit 1	Logit 2	Logit 3	Logit 4	Logit 5	Logit 6	Logit 7	Logit 8
Firm discretionary policy	Big-four	1.1001*** (0.136)	0.0538 (0.165)						
	Extent of disclosure index			0.0759 (0.052)	0.3641*** (0.061)				
	Big-four_disclosure			0.1553*** (0.023)	-0.0166 (0.025)				
	Big-four_Hi disclosure (β_1)					0.6981*** (0.177)	0.5359** (0.217)		
	Nobig-four_Hi disclosure					-0.4898** (0.198)	0.2669 (0.232)		
	Big-four_Lo disclosure (β_3)							0.1920 (0.186)	-0.5083** (0.235)
	Nobig-four_Lo disclosure							-0.9716*** (0.222)	-0.3295 (0.236)
Firm-level controls	Size		1.0868*** (0.069)		1.1445*** (0.073)		1.0992*** (0.069)		1.1201*** (0.068)
	Percentage trading	6.0538*** (0.532)	5.1385*** (0.540)	5.8707*** (0.526)	5.0153*** (0.556)	5.8677*** (0.541)	5.1285*** (0.558)	5.9432*** (0.545)	5.0996*** (0.560)
	Return to risk	0.0948*** (0.025)	0.0895*** (0.028)	0.0922*** (0.024)	0.0888*** (0.033)	0.4524*** (0.135)	0.1937 (0.173)	0.5522*** (0.134)	0.2046 (0.172)
	Debt to assets	-0.0012 (0.002)	-0.0175*** (0.004)	-0.0006 (0.002)	-0.0173*** (0.004)	0.0001 (0.000)	-0.0163*** (0.004)	0.0001 (0.000)	-0.0163*** (0.004)
Country-level controls	FOREX	-0.5833*** (0.139)	0.0590 (0.172)	-1.0334*** (0.193)	-0.8173*** (0.214)	-0.7799*** (0.168)	-0.3217 (0.197)	-0.7327*** (0.163)	-0.2964 (0.196)
	Free trade agreements	-0.3947*** (0.138)	0.2549 (0.169)	-0.4613*** (0.140)	0.1749 (0.171)	-0.4927*** (0.143)	0.2215 (0.177)	-0.1636 (0.141)	0.2787 (0.170)
	Constant	-6.0853*** (0.728)	-11.9586*** (1.011)	-5.9638*** (0.735)	-13.8379*** (1.159)	-5.0969*** (0.700)	-12.1515*** (1.017)	-5.0186*** (0.757)	-11.8090*** (1.027)
	Industry and time effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Dependent variable: $DInvestment_{jt}$		Logit 1	Logit 2	Logit 3	Logit 4	Logit 5	Logit 6	Logit 7	Logit 8
N		7,122	7,122	7,072	7,072	6,584	6,584	6,584	6,584
Pseudo R-squared		23.81%	44.90%	23.55%	46.28%	23.46%	45.97%	22.56%	45.91%
Log likelihood		-2403.89	-1738.53	-2380.16	-1672.47	-2234.08	-1577.17	-2260.40	-1578.73
Chi-squared		304.96***	418.84***	316.64***	405.00***	293.38***	442.33***	288.25***	430.22***
Wald test $\beta_1=\beta_2$ Chi-squared						42.56***	1.70*	26.63***	0.49

Source: Thesis analysis.

3.5. Conclusion

3.5.1. Summary and implications

This research tests whether the US mutual fund investment in the MENA stock markets is driven by financial market development and shareholder protection concerns as the ‘Law and Finance’ theory predicts. Additionally, the research examines whether firms can signal their quality by adopting IFRS and appointing a big-four auditor despite the legal shortcomings in the country of listing. The research question is largely motivated by the characteristics of the MENA stock markets where ownership concentration, state ownership, and the dominance of family business and business groups have consequences on the substantive corporate governance practices. Such circumstances increase the information asymmetry particularly to foreign investors where the role of minority shareholder protection is needed the most. Corporate governance is particularly important in MENA since these countries do not have long-established financial institutional infrastructures (Braendle, 2012, p. 1). The essay complements studies of La Porta et al. (1997, 1998) by modelling the joint impact of financial market development and legal environment in drawing foreign investment into emerging stock markets.

The sample includes firms that are only locally listed in 11 MENA stock markets for 2008-2012. The investment by the US mutual funds is derived from Morningstar[®] Principia[®]. The models are estimated using both logistic and tobit regressions models where the later used to deal with biases that may arise due to sample selection.

Results indicate that US mutual fund investment is positively associated with both financial market development and particular legal rules protecting minority shareholders in the destination MENA country. Deficiencies in the rule of law in the region seriously affect the prospects for foreign investments.

There are certain legal rules protecting minority shareholders rights in MENA investment situations that matter for US mutual funds. Among the four measures of minority shareholder protection mechanisms studied, the country-level disclosure standards in relation to anti self-dealing transactions are critical. Firms listed in countries with poor disclosure practices usually experience lower levels of foreign investment. It is also observed that the probability of US mutual fund investment increases as disclosure levels increase. The results imply that poor disclosure practices increase information asymmetries, particularly for foreign investors. Therefore, foreign investors refrain from investments that provide little information about the firm’s transactions and dealings and shun countries that do not focus on legal environment conducive towards disclosures that a foreign investor requires.

The ability to hold directors liable for misconduct and the ease of litigation are both unexpectedly negatively associated with the US mutual fund investment decision whereas the provisions of the statutory law that grant protection for minority shareholders as measured in the anti-director rights index is positively associated with US investment.

It appears that US mutual funds perceive the pre-emptive shareholder rights as more important determinants of investment decision making than remedial rights, particularly in MENA countries with French civil law legal origin. In other words, it is an important screening process for US mutual funds to access relevant information prior to investment. If self-dealing occurred and US mutual funds were unable to protect their investments, US mutual funds will exit from the investment by liquidating their investment holdings rather than seek remedial action via litigation in a foreign legal jurisdiction.

This new evidence reinforces the importance of high-quality disclosure allowing foreign investors to monitor and protect their investments and efficiently allocate capital. These results have policy implications and show how countries and firms can create improvements to the investment environment that support enhanced foreign institutional investment in the MENA region. Given that US mutual funds constitute the largest source of equity capital in the world, MENA countries have strong incentives to attract this investment pool to improve market liquidity by enhancing dissemination of quality information for listed firms. As MENA stock markets are open to greater foreign participation, the demand for greater transparency is inevitable (Stovall, 2000, p. 844). Additionally, the resulting foreign demand for MENA firms lowers their cost of capital thus allowing them to compete more effectively in the global marketplace. MENA firms seeking to expand their shareholder base and attract foreign investment, but are listed in countries with poor disclosure quality can attempt to reduce the concentrated ownership patterns thereby improving the free float or overcome the disclosure shortcomings by cross listing the firm's securities in stock markets with improved disclosure requirements. The adoption of IFRS and appointing a big-four auditor will also positively attract foreign shareholders.

3.5.2. Limitations

The period of analysis includes two important events; the GFC and the Arab Spring. Both of which are expected to affect the foreign portfolio investment in the MENA region. The MENA stock markets remained reasonably insulated from the worst effects of the GFC (World Bank, 2011). The regional turbulence in 2011 and beyond and the political instability that resulted in the fall of the regimes in Tunisia, Egypt, and Libya affected the MENA stock markets more than

the GFC. The events of the Arab Spring have increased the uncertainty and negatively affected investors' confidence and resulted in large losses for virtually all MENA markets in 2011, especially in Egypt, Tunisia, and Syria (OECD, 2012, p. 9; World Bank, 2011, p. 50). Ahmed and Zlate (2014) and Ahmed and Mmolainyane (2014, p. 222) report that significant changes in the behaviour of net inflows in emerging markets from before GFC to the post-crisis period, especially for portfolio investment. Additionally, the unconventional US monetary expansion positively affected total and portfolio inflows. Morningstar® Principia® provides no data on the country allocation before 2008 hence it is infeasible to assess how much US mutual fund investments allocation change pre and post crisis as well as their sensitivity to the political regional turmoil.

As MENA stock markets are characterised by varying degrees of illiquidity and thin trading, the monthly returns and the standard deviations used in the calculation of the reward to risk ratio may produce biased coefficients. Thin trading adjustment of Maynes and Rumsey (1993) is ultimately required to fine tune this analysis.

As US mutual funds voluntarily report to Morningstar® Principia®, sample selection bias was considered and was addressed by estimating Tobit regressions. Alternatively, Heckman selection model for sample selection bias can be used.

An important concern is that US mutual fund investment is endogenously determined. A firm/country with good governance may be more likely to attract foreign institutional investors. Moreover, a firm/country with expected future governance improvements is also more likely to attract foreign institutional investors. Alternatively, it is foreign investment that induces changes in governance. This endogeneity plagues all corporate governance studies and thus cautious interpretation of the economic consequences is warranted (Hermalin and Weisbach, 2003, p. 8).

3.5.3. Further research

The essay sample excludes all MENA firms that have securities listed outside MENA stock markets to properly measure the impact of national laws on attracting foreign investment. A natural extension is to compare and contrast the characteristics of both solely listed and dual listed MENA firms. In undertaking such analysis, the role of signalling quality in listing elsewhere is considered. The cross-listing decision is another discretionary choice, and further research can establish if cross listed firms are different from those who are listed at home. Distinguishing these effects has important economic implications. The salient differences in regulatory framework for the cross-listed securities must also be mapped along the lines considered in this thesis for MENA countries. Another extension to this research is to analyse the

firm's cost of capital as a consequence of the level of foreign share ownership. Well-diversified and foreign shareholders are expected to lower the firm's cost of equity capital and allow the firm to gain global competitive advantages in financing structure.

Fund-level data is available in the database but the details were not considered in this thesis. Analysis of fund level choices opens up further research possibilities that take into consideration the fund objectives and identify the benefit of diversification for each fund based on its reported and specific yearly portfolio holdings. Instead of firm-level analysis, the determinants of the mutual fund investment in MENA can be analysed by considering the percentage of the fund portfolio invested in a specific MENA country.

The present research is merely a beginning point. An attempt has been made to dig a little deeper into the factors that seem to matter to US mutual funds when investing in MENA. In so doing, a more detailed analysis of the legal environment and voluntary choice variables of IFRS and auditor choice have been considered. It is reasonable to conclude that both shareholder protection and the level of financial market development matter to US mutual funds when considering investment in listed MENA firms.

CHAPTER 4

Final remarks

The thesis includes two essays that highlight the integral role of both legal rules and culture to financial market development and global investment decisions. The first essay examines the impact of the legal rules protecting creditors and shareholders and culture on the development of credit and stock markets in MENA. The second essay extends the analysis by considering how the stock market development and the legal environment protecting minority shareholders affect US mutual fund investments in MENA firms. The conceptual framework of the ‘Law and Finance’ theory, developed by La Porta, Lopez-De-Silanes, Shleifer and Vishny (LLSV) and subsequent critiques have shaped and informed this thesis in three ways by:

- broadening the legal origin framework to account for legal hegemony in a more realistic setting. While the laws of the former colonisers have roots in the legal rules of MENA countries, the region provides a unique setting of hybrid legal systems. The contemporary MENA laws are developed to reconcile the differences between Islamic traditions and Western transplanted laws. Further, Islamic traditions in the MENA integrate both religion and state so that the impact of Islam is pervasive in both religious practice and enshrined in the constitution as a legislative source. Thus, the dichotomous classification of countries into common and civil legal origins is not sufficient to capture the interaction of legal traditions in MENA. A Sharia index for each MENA country is constructed that captures the extent of legal duality by reference to the constitutional role of Sharia. This index construction involves reviewing the constitution and then coding the provisions that refer to the role of Sharia in country level legislation. The inclusion of the Sharia index in the analysis demonstrates that the legal origin of LLSV alone does not sufficiently reflect the complexity of the legal systems in countries with mixed traditions like MENA. Analysing financial market development requires a tentative approach that reflects the local historical narrative of how the legal traditions of the Europeans mixed with local Islamic legal traditions.
- recognising the specific role of culture. Legal rules reflect cultural values and both are so well blended that they cannot be viewed independently. The Islamic culture has economic consequences because it forbids interest dealings and speculative behaviour, both of these activities are essential for the development of credit and stock markets. Despite the fact that MENA countries share common language, religion and historical ties, they exhibit varying degrees of Islamic culture. The thesis uses a multi-dimensional variable measuring

the degree of political, educational and financial Islamic culture in MENA countries (adopted from Achilov (2010)). The thesis results reinforce the view that infusion of cultural variables influences the emergence of distinctive regional features that shape financial market development.

- developing an anti-director rights index for each MENA country that measures the extent to which minority shareholder rights are protected by country level legislation. The index construction involves hand-collecting the MENA laws, extracting the legal provisions that are relevant for minority shareholder rights, and then, coding these provision following Djankov, La Porta, et al. (2008) methodology. Unlike the prior literature which constructs the index with reference to legal provisions from company law, this thesis augments the development of the anti-director rights index to include also corporate governance codes, securities law, executive regulations and ministerial decisions. Thus, the anti-director rights index codes reflect any relevant legal reforms that took place during the period of the study. The index construction process involved translation from Arabic, French, Farsi, Hebrew and Turkish languages into English.

Results highlight the factors that influence credit and stock market development. The availability of borrower credit information and the legal protection provided to borrowers and lenders via collateral and bankruptcy laws are important for the development of credit markets. Transparency and disclosure practices and the legal protection provided to minority shareholders are critical for the development of MENA stock markets. Not only does the quality of the law matter for financial market development, but also the extent of its enforcement. Additionally, the prevalent Islamic culture and the legal duality that arises from the constitutional role of Sharia hinder financial markets. Furthermore, the US mutual fund investment pattern in MENA follows 'Law and Finance' predictions that financial market development, disclosure practices and law enforcement positively influence fund investments. Finally, firms that voluntarily choose to subject their financial statements to independent audits conducted by a 'big-four' auditor and voluntarily report under IFRS signal their quality and attract foreign capital despite the country-level legal environmental shortcomings.

The thesis 'connects the dots' and examines a fine gradation of the legal environment that is relevant for both the development of financial markets and global investments in emerging markets. The results demonstrate that certain aspects of the law, particularly disclosure and minority shareholder protections, positively affect both stock market development and the US mutual fund investment in MENA. This triangular relationship has insightful policy implications. Subjecting listed firms to high disclosure requirements and raising the legal protection standards

for minority shareholders increase US mutual fund willingness to hold equity capital in MENA firms. The inflow of investment, particularly foreign investment, increases the market liquidity. Further, due to the fact that the required rate of return for well-diversified institutional investors is relatively low, enhanced foreign investment reduces the cost of capital to MENA firms. This in turn, assists MENA firms to compete globally, increases the competitiveness among the local MENA firms, and induces other entrepreneurs to go public to raise new funds in order to compete. Raising the legal standards for both disclosure requirements and the legal protection for minority shareholder rights increases the depth and breadth of MENA markets.

Due to institutional underdevelopment and the lack of legal rules protecting minority shareholder rights in MENA, entrepreneurs choose to operate their firms with high ownership concentration to protect their investment. Hence, information asymmetry between controlling and minority shareholders widens. The gap is even larger for minority foreign investors. Not only does this class of foreign investors face the challenges of domestic minority shareholders but also other barriers in the form of differences in language, culture, financial reporting standards, and the lack of knowledge of domestic ties and relationships. Under such circumstances, even the most sophisticated investors are like ‘fish out of water’ when investing in MENA markets. Consequently, apart from risk, return and liquidity determinants of the traditional finance theory, other country and firms attributes matter for the global investment decisions in emerging MENA markets. At the country-level, the degree of stock market development, disclosure requirements and law enforcement are critical factors for foreign investors in emerging MENA markets. At the firm-level, financial statement quality measured in terms of independent appointment of an internationally recognised ‘big-four’ auditor and voluntarily reporting under the international financial standards rather than local accounting standards alleviates investment ambiguity for foreign investors. International reporting brings uniformity and comparability thus making it easier to make informed investment decisions in a foreign market.

Despite the fact that MENA countries belong to the same geographic location with common historical ties, the extent of diversity between the countries is large in terms of economic wealth, natural endowment of resources, and political stability. Adopting a wholly US centric framework when analysing the financial market development in the MENA region is inappropriate. Such adoption fails to reflect the fine differential characteristics between MENA countries, particularly, the substantial Islamic cultural diversity and extent of Islamic influence on legal environment. As cultural elements are particularly integrated into the local legal environment, culture cannot be purposefully separated from the stated local legal provisions, particularly where investor protection rights are concerned. The ‘Law and Finance’ theory of La Porta, Lopez-De-

Silanes, Shleifer, and Vishny is deficient in that both cultural elements and the duality of the legal system must be taken into account when analysing financial market development in complex and internationally isolated regions like the MENA.

While each essay in this thesis has discussed the avenues for future research (see Sections 2.6.3 and 3.5.3) there is a need to expand the research on the under-investigated MENA financial markets. Such sentiments are wholly consistent with the recent strong and motivated call by the Financial Economic Network to invigorate further research in Islamic banking and Finance. Through this thesis, I am pleased to have made a unique contribution to this emergent literature.

APPENDICES

Appendix 1 Shareholder protection in MENA countries

1. Vote by mail			
Country	Code	Law / Regulation	Legal provision
Algeria	1	Algerian Code of Commerce, Ordinance No. (75-59) of 1975	Article 602 Shareholders have the right to vote themselves or via a proxy in accordance with Article 603...
Bahrain	1	Commercial Companies Law Decree Law No. (21) of 2001	Article 203 Each shareholder, regardless of the number of the shares he owns, shall have the right to attend the general assembly, and shall have a number of votes equal to the number of shares he owns in the company. Any provision or decision to the contrary shall be null and void. Any shareholder may delegate a person, from among the shareholders or from among non-shareholders to attend the general assembly on his behalf, provided that this person shall not be the chairman of the board or from among the members of the board of directors or from among the members of the company's staff. However, this shall not prejudice the right to delegate a first-degree relative. The company shall prepare a special written form for this purpose. The delegate shall not represent in this capacity a number of votes exceeding 5% of the issued capital in the general assembly meetings.
		Corporate Governance Code 2011	7.1 Conduct of shareholders' meetings. The board shall observe both the letter and the intent of the Company Law's requirements for shareholder meetings. Among other things:... <ul style="list-style-type: none"> notices of meetings should encourage shareholders to participate by proxy and should refer to procedures for appointing a proxy and for directing the proxy how to vote on a particular resolution. The proxy agreement shall list the agenda items and shall specify the vote (such as "yes," "no" or "abstain),...
Egypt	1	Companies Law No. (159) of 1981	Article 59 Every shareholder is entitled to attend the general assembly, personally or by proxy. No shareholder, other than members of the board of directors, is allowed to mandate any member of the board of directors to represent him in the general assemblies. Attendance by proxy is valid only if it is confirmed in a written power of attorney, and that the mandated person be a shareholder.
		Decree No. (96) of 1982. Executive Regulations for Companies Law No. (159) of 1981	Article 208 Shareholders can attend the general assembly in person or via a proxy. Attendance by proxy is valid if it is confirmed in a written power of attorney. The mandated person must be a shareholder. No shareholder other than members of the board of directors is allowed to mandate any member of the board of directors to replace him in the attendance of general assemblies.
		Capital Market Law No. (95) of 1992	Article 9 A shareholder cannot represent in the general assembly of the company, by way of proxy, a number of votes more than the limit stipulated in the executive regulations.

Appendix 1 Shareholder protection in MENA countries

1. Vote by mail			
Country	Code	Law / Regulation	Legal provision
		Decree No. (135) of 1993. Executive Regulations of Capital Market Law No. (95) of 1992	Article 8 The shareholder shall not represent in the company's general assembly meeting by way of proxy, more than ten percent of the total nominal shares of the company and not more than twenty percent of the shares present in the meeting.
		Egypt Code of Corporate Governance 2005 and 2011	2.1. in Corporate Governance Code (2005) and 1.1.5 in Corporate Governance Code 2011 The general assembly is composed of all corporation shareholders pro-rata to the percentage of shares held by each. Although the articles of association of a corporation may stipulate that no shareholders possessing less than a specific percentage of shares may attend the general assembly meeting, such a provision should be deemed an exception to the rule that entitles all shareholders to attend the meeting unless their number exceeds the capacity by which the corporation can provide a meeting place, in which case the stipulation may be resorted to; it should also not be a means to exclude and overrule small shareholders.
Iran	1	Commercial Code of Iran as ratified on Esfand 1347 (March 1969)	Article 102 In all general meetings, the attendance of the attorney or legal representative of a shareholder and in the same manner the attendance of the representative or representatives of a legal entity, provided they produce documentary evidence establishing their position as proxy or representative, will be considered as the attendance of the shareholder.
Iraq	1	Companies Law No. (21) of 1997	Article 91 First: The member may, under a certified power of attorney, appoint a proxy to attend, speak, and vote on his behalf in the meetings of the general assembly. He can also appoint another member for this purpose. Second: The registrar shall issue guidelines specifying the form to be used for the power of attorney, its contents, and the method of its preparation. Third: In the case of the joint-stock company: ... 2. The representational power of attorney must be deposited at the company's administrative office at least three days before the meeting. The company's administrative office shall check them to make sure that they are correct. The power of attorney will remain valid for any other meeting to which the first is adjourned.
Israel	1	Companies Law No. (5759) of 1999	Part III: Structure of the company Chapter 2: The general meeting Article F: Voting at general meeting The Manner of voting at meeting 83 (a) A shareholder in a public company may vote by himself or by a proxy, as well as by way of a voting paper under Article G. (b) A shareholder in a private company may vote by himself or by proxy, unless otherwise provided in the articles of association. (c) A shareholder in a private company may vote by voting paper if there are provisions to that effect in its articles of association.

Appendix 1 Shareholder protection in MENA countries

1. Vote by mail			
Country	Code	Law / Regulation	Legal provision
			<p>Article G Voting by voting paper and statement of position</p> <p>Voting at general meeting by written vote 87 ...</p> <p>(b) A voting paper shall be sent by the company to every shareholder; a shareholder may indicate his vote on the voting paper and send it to the company.</p>
Jordan	1	Jordanian Companies Law No. (22) of 1997	<p>Article 179 Granting proxy to attend meetings</p> <p>a) A shareholder in a public shareholding company shall have the right to give a proxy to another shareholder to attend any meeting of the company general assembly. The proxy shall be in writing, on a special form prepared by the company board of directors for this purpose with the approval of the controller. Proxies must be deposited at the company headquarters at least three days before the date set for the meeting of the general assembly. The controller, or any person delegated by him, shall examine the said proxies. The shareholder may also give a proxy to another person by virtue of a judicial power of attorney to attend the meeting on his behalf.</p> <p>b) The proxy shall be valid for the attendance of the representative of any other meeting to which the general assembly meeting was postponed.</p>
		Corporate Governance Code for Shareholding Companies Listed on the Amman Stock Exchange, 2008	<p>Chapter three: General assembly meetings</p> <p>7. A shareholder may deputise another shareholder to attend the general assembly meeting in his place, by means of a written proxy authorisation, or to deputise another person by means of a judicial proxy in accordance with the legislations in force.</p> <p>Chapter four: The company shall take appropriate measures to ensure that shareholders enjoy their rights in a manner that would achieve justice and equality without discrimination. These rights include mainly:</p> <p>Section one: General rights</p> <p>5. Participating and voting in general assembly meetings in person or by proxy with a number of votes equal to the number of shares that he holds in the company.</p>
		Jordanian Corporate Governance [Private shareholding companies, limited liability companies, Non-listed public shareholding companies] 2012	<p>2.3 Effective participation</p> <p>The organisation should have or establish appropriate systems that will enable the increased involvement of shareholders to participate effectively and vote in the shareholders' meetings. Those shareholders who are not present should be able to vote in absentia, such as by proxy voting.</p>
Kuwait	1	Commercial Companies	Article 155 The general assembly meeting chaired by the chairman or his deputy or his delegate to the board of directors. The general assembly

Appendix 1 Shareholder protection in MENA countries

1. Vote by mail			
Country	Code	Law / Regulation	Legal provision
		Law No. (15) of 1960	meeting shall not be deemed valid unless attended by the shareholders who represent more than half of the shares. Should such quorum fail to be constituted, the assembly shall be invited for a second meeting. The second meeting shall be deemed valid regardless the number of the attendees. <u>Attendance of this meeting may be by proxy.</u>
		Kuwait Companies Law No. (25) of 2012	Article 239 Every shareholder, regardless of the number of his shares, shall have the right to attend the general assembly and shall have a number of votes equivalent to the number of votes decided for the same class of shares. The shareholder shall not have the right to vote for himself or for his representative in the matters related to his interest, or related to a dispute arising between him and the company. Any condition or decision stipulating otherwise shall be considered null and void. <u>The shareholder may appoint others to represent him in the attendance, by virtue of a special power of attorney or authorisation prepared by the company for this purpose.</u>
Lebanon	1	Lebanon on the Land Commerce, Decision No. (304) of 1942	Article 181 Shareholders who cannot attend the general assembly may delegate others to represent them under the condition that the representatives are shareholders themselves. An exception is the legitimate representatives of the incompetent.
		Lebanon Corporate Governance Guidelines for Listed Companies (2010)	Article 5 Shareholders' rights with regards to Shareholders' meetings g) The company shall not take any measure of which the object or the effect would result in affecting the voting rights of the shareholders, which can be cast whether in person or by proxy. Subject to applicable laws and regulations, shareholders should be allowed to cast their vote electronically provided secure methods are used.
Morocco	1	Companies Law No. (17) of 1995	Article 131 A shareholder may be represented by another shareholder, his spouse, an ascendant or descendant. In public companies, a shareholder can also be represented by any legal person where the corporate purpose is to manage securities portfolios. Any shareholder may represent other shareholders at the meeting without limiting the number of representations or the votes that one person can hold, whether in his name or by proxy, unless this number is specified in the articles of association. Unless otherwise provided by the articles of association, when a proxy for a shareholder addressed to the company without indicating a representative, the president of the general assembly shall vote in favour of the adoption of the draft resolutions presented or approved by the board of directors or the supervisory board, and against the adoption of any other draft resolutions. For any other vote, the shareholder must choose an agent who agrees to vote in the direction indicated by the principal. The clauses incompatible with the first two paragraphs are deemed unwritten. Article 131 (bis) The articles of association may provide that any

Appendix 1 Shareholder protection in MENA countries

1. Vote by mail			
Country	Code	Law / Regulation	Legal provision
			<p>shareholder may vote by mail using a form. Forms without giving a vote or express an abstention will not be considered for the calculation of the majority.</p> <p>The voting form by mail sent to the company for a meeting shall be valid for successive meetings convened with the same agenda.</p> <p>As the invitation of the meeting commences, a form for voting by mail and its attachments shall be delivered or sent at the expense of the company, to any shareholder who requests so, by all means provided by the articles or the meeting invitation. The company must respond to any application filed or received at the registered office no later than ten days before the meeting date. This period is reduced to six days for companies that are not public.</p>
		Moroccan Code of Good Corporate Governance Practices (2008)	<p>II- Rights of shareholders and partners and their equitable treatment</p> <p>1.7) The firm shall encourage methods for distance voting and recommend the use of systems which are simultaneously reliable and rapid, but also secure for the shareholder in terms of confidentiality. Similarly, the enterprise shall authorise the exercise of proxy voting without restriction.</p> <p>1.8) It is recommended to provide for the right to postal vote in the charter.</p>
Oman	1	Commercial Companies Law No. (4) of 1974	<p>Article 115 Each shareholder shall have the right to attend general meeting and shall have one vote against each share held by him, even if such share is represented by a provisional certificate. A shareholder may give a written proxy to another person to attend the general meeting and vote on its resolutions. The shareholder may revoke such proxy at any time. The representative need not be a shareholder unless the company's articles of association so ordains.</p> <p>Article 75 All shares of a joint-stock company shall enjoy equal and inherent rights in the ownership thereof, namely, the right to receive dividends declared by the general meeting, the pre-emptive right of subscribing for new shares, the right to share in the distribution of the company's assets on liquidation, the right to transfer shares in pursuance of the Law, the right to view the company's balance sheet, the profit and loss of account and the shareholder registers, <u>the right to be notified of the meetings of the general meeting and to participate and vote in such meetings personally or by proxy</u>, the right to apply for annulment of any decision made by the general meeting or the board of directors if such decision is contrary to the Law, or the company's articles of association or the Company's internal regulations, and the right to sue directors and the auditors of the company on behalf of the share holders or on behalf of the company pursuant to Article 110.</p>
Palestine	1	Company Law No. (12) of 1964 ⁸⁰	<p>Article 161 Power of attorney to attend the general assembly meetings</p> <p>1) A proxy for another shareholder to attend the general assembly meetings is permitted.</p> <p>2) The proxy forms to attend and vote at the general meeting are special</p>

⁸⁰ Firms operating in West Bank are governed by the Jordanian Companies Law No. 12 of 1964. Firms doing business in non-autonomous areas of the West Bank are governed by the Israeli Military Order of 1970. Firms operating in Gaza are governed by the British Mandatory Companies Law of 1929.

Appendix 1 Shareholder protection in MENA countries

1. Vote by mail			
Country	Code	Law / Regulation	Legal provision
			forms prepared by the company for this purpose with the approval of the controller and this form is sent to each shareholder with the invitation to attend the general assembly meeting. 3) In no case shall the number of shares held by the agent be more than five percent (5%) of the paid-up capital of the company.
		Company Law of 1929	Article 66 Types of decisions 1) The decisions taken at the meeting assembly meeting are ordinary, extraordinary or private. 2) The decision is considered ordinary if it is approved by a small majority of the members who have the right to vote and vote either personally or by their representatives, if proxy voting is permissible in a general meeting.
Qatar	1	Qatar Commercial Companies Act No. (5) of 2002	Article 128 3. The authorisation to attend the general assembly meeting is allowed provided that the agent should be a shareholder and the authorisation should be special for this purpose and in writing. The shareholder is not allowed to authorise one of the board members to attend the meeting of the general assembly on his behalf. In all cases the number of the shares held by the agent in this capacity should not be more than 5% of the capital of the company. 4. Excluding the legal persons, no shareholder whether in his original capacity or his capacity as the representative is allowed to represent the votes exceeding 25% percent votes prescribed for the shares represented in the meeting.
		Corporate Governance 2009	25.2 Proxy voting is permitted in compliance with related laws and regulations.
Saudi Arabia	1	Companies Regulations, Royal Decree M/6 of 1385 Hijri	Article 83 The bylaws of the company shall specify the classes of stockholders entitled to attend general meetings. Nevertheless, every stockholder who holds 20 shares shall have the right to attend, even if the bylaws of the company provide otherwise. A stockholder may, in writing, give proxy to another stockholder other than a director to attend the general meeting on his behalf. The Ministry of Commerce may delegate one or more representatives to attend the general meetings as observers.
		Corporate Governance Regulations, Resolution No. 1/212/2006 dated 21/10/1427AH	Article 6 (c) A shareholder may, in writing, appoint any other shareholder who is not a board member and who is not an employee of the company to attend the general assembly on his behalf.
Sudan	1	Sudan Companies Act	First Schedule, Table A, Rules for managing joint-stock companies 64 Voting in the ballot may either be in person or through a proxy. It is not

Appendix 1 Shareholder protection in MENA countries

1. Vote by mail			
Country	Code	Law / Regulation	Legal provision
		of 1925	permissible for any company to vote through a proxy if its board of directors has not issued a resolution in that matter in accordance with the provisions of Article 73 of this Law.
Tunisia	1	Tunisia Companies Law No. (93) of 2000	Chapter 11 ... The shareholder votes in person or through an agent representing all the shares and the agent cannot be appointed to vote using a portion of the shares ... Chapter 278 ... The decisions of the general assembly are to be taken by the absolute majority of the votes represented in the meeting in person or by a proxy. Each shareholder may vote by correspondence or by any person with a special power of attorney ...
		Tunisia Code of Best Practice of Corporate Governance (2008)	1.4.3 Voting in absentia - encourage shareholders to take part in the general meeting and allow those of them who cannot attend that meeting to vote in absentia either by correspondence or by certified proxy. - provide shareholders with the necessary documents to vote by correspondence or by proxy within a deadline distant enough from the date of the general meeting, 30 days before it takes place, so that they can undertake the necessary procedures. These documents could also be diffused through telematic solutions.
Turkey	1	Turkish Commercial Law No. (6102) of 2011	Article 425 (1) A shareholder shall be entitled to appoint a proxy among shareholders or real persons to exercise the rights in the general assembly which are conferred upon him by the shares he owns in the company or he himself shall participate in the general assembly. Any provision in the articles of association stipulates nomination of a proxy among shareholders shall be null and void. Article 617 (3)...Each shareholder shall be entitled to get himself represented in the general assembly through a person who is or is not a shareholder. Article 1527 (2) Provided that it is stipulated in the company charters or Articles of Association, participation, expressing opinions and voting in the general assembly of limited liability companies and joint stock companies may be held by electronic means...
		Corporate Governance Principles of Turkey (2003 Amended, February 2005)	Part I Shareholders 3.2.7. Prior to the meeting, proxy forms should be announced for those who will appoint a proxy for the meeting. These forms should also be open to use by shareholders in electronic media. 4.6. Provisions that may prevent voting by use of a proxy who is not a shareholder should not be included in the articles of association of the company. 4.6.1. A shareholder can vote either personally or by appointing a third person as his/her representative, regardless of whether this third person is a shareholder or not.

Appendix 1 Shareholder protection in MENA countries

1. Vote by mail			
Country	Code	Law / Regulation	Legal provision
UAE	1	Commercial Companies law No. (8) of 1984	Article 126 Whoever is entitled to attend the general meeting may appoint a proxy other than the directorate-members. Such appointment shall be made in writing. In such capacity no authorised proxy may hold more than 5% of the company capital. Persons of incomplete or non-legal capacity shall be represented by their legal representatives.
		Decision No. (32\R) of 2007 Concerning on Corporate Governance Code for Joint-Stock Companies and Institutional Discipline Criteria. and Ministerial Resolution No. (518) of 2009 Concerning Governance Rules and Corporate Discipline Standards	Article 12 (4) Members of the board of directors may not get proxies from shareholders to attend on their behalf in the general assembly meetings;

Appendix 1 Shareholder protection in MENA countries

2. Shares not deposited			
Country	Code	Law/ Regulation	Legal provision
Algeria	0		No provision
Bahrain	0		No provision
Egypt	0	Companies Law No. (159) of 1981	<p>Article 61 The general assembly is to be convoked by an invitation from the chairman of the board of directors at the time and place designated by the statute of the company. The general assembly should be held at least once a year, within six months after the end of the financial year for the company. The board of directors may decide to call for the general assembly meeting whenever a necessity arises. The board of director should convoke the ordinary general assembly meeting if the auditor demands, or a number of shareholders representing at least 5% of the capital of the company, provided that they express the motives behind demand, <u>and that they deposit their shares in the headquarters of the company or at one of the approved banks; and such shares are not to be withdrawn</u> except after dissolution of the general assembly.</p> <p>Article 70 The provisions relating to the ordinary general assembly are applicable to the extraordinary general assembly, with observance of the following:</p> <p>(a) The extraordinary general assembly meets upon an invitation of the board of directors. The board should address the invitation if it is asked by a number of shareholders representing at least one tenth of the capital, for serious reasons, and subject to the applicants depositing their shares at the head office of the company or in any approved bank. The shares should not be withdrawn except after dismissal of the assembly. If the board does not convoke the assembly during one month from the date of the request, the applicants may have recourse to the relevant administrative authority which will assume addressing the invitation.</p>
		Decree No. (96) of 1982. Executive Regulations for Companies Law No. (159) of 1981	Article 205 Shares are blocked from trading from the date of the notice of the meeting or from the date the notice has been sent until the dismissal of the general assembly meeting.
		Decree No. (135) of 1993. Executive Regulations of Capital Market Law No. (95) of 1992	<p>Article 14 ...The holder of bearer shares who wishes to attend the general assembly meeting should deposit his shares according to the rules of depositing the nominal shares, either in the company or in one of the banks, or in any of the companies that is licensed by Authority for this purpose.</p> <p>Formats for the statute of the company: General assembly:</p> <p>Article 40 Shareholders wishing to attend the general assembly meeting should prove that they had deposited their shares either in the company's headquarters or in one of the approved banks, or in any of the financial companies that is licensed by Authority for this purpose at least three days</p>

Appendix 1 Shareholder protection in MENA countries

2. Shares not deposited			
Country	Code	Law/ Regulation	Legal provision
			prior to the meeting. This rule applies to nominal shares and bearer shares.
Iran	0		No provision
Iraq	0		No Provision
Israel	0		No provision
Jordan	0		No provision
Kuwait	0		No provision
Lebanon	0		No Provision
Morocco	0	Companies Law No. (17) of 1995	Article 130 The articles of association may make participation or representation at meetings subject to, either the registration of the shareholder in the share register of the company, or the deposit of bearer shares or a certificate of deposit issued by the depositary institution at the place indicated in the notice. The period during which these formalities must be completed shall be fixed by the articles of association. It cannot be earlier than five days before the date of meeting of the assembly.
		Moroccan Code of Good Corporate Governance Practices (2008)	II- Rights of shareholders and partners and their equitable treatment 1) Participation at the general meeting 1.9) For non-residents, the enterprise takes into consideration the specifics of exercising voting rights, notably by reducing the period during which shares or partnership shares are blocked.
Oman	0		No provision
Palestine	0		No provision
Qatar	1	Qatar Commercial Companies Act No. (5) of 2002	Article 167 The statute of the company can stipulate any restrictions related to the share trading provided that such restrictions should not prohibit the share trading.
Saudi Arabia	1	Companies Regulations, Royal Decree M/6 of 1385 Hijri	Article 101 The bylaws of the company can stipulate restrictions related to the share trading provided that such restrictions should not prohibit trading.
Sudan	0		No provision
Tunisia	0		No provision

Appendix 1 Shareholder protection in MENA countries

2. Shares not deposited			
Country	Code	Law/ Regulation	Legal provision
Turkey	0 pre 2011 and 1 post 2011	Turkish Commercial Law No. (6102) of 2011 ⁸¹	Article 415 (4) The right to attend general assembly and to vote cannot be stipulated to deposit the documents or share certificates, which prove that the shareholder owns the shares, to a financial establishment or another place.
		Corporate Governance Principles of Turkey (2003 Amended, February 2005)	<p>Part I Shareholders</p> <p>3. The right to participate in the general shareholders' meeting</p> <p>3.1 Within a reasonable period prior to the general shareholders' meeting, holders of registered shares should be recorded in the company's share ledger by also taking into consideration the records of institutions operating for the record keeping and safekeeping of shares in order to ensure attendance of real shareholders at the general shareholders' meeting.</p> <p>7. Transfer of shares: Practices that would hinder shareholders to freely transfer their shares should be avoided. The articles of association should not contain provisions to impede the transfer of shares.</p>
UAE	0		No provision

⁸¹ Under the old Commercial Code No. (6762) of 1956, shareholders exercising the proxy right must obtain a certificate of ownership from TAKASBANK through his/her custodian. TAKASBANK will block the subject shares until one business day after the meeting.

Appendix 1 Shareholder protection in MENA countries

3. Cumulative voting			
Country	Code	Law/ Regulation	Legal provision
Algeria	0	Algerian Code of Commerce, Ordinance No. (75-59) of 1975	Article 619 The board of directors must hold a number of shares representing at least twenty percent (20%) of the share capital. The minimum number of shares held by each director is set by the company's memorandum ...
Bahrain	0	Commercial Companies Law Decree Law No. (21) of 2001	<p>Article 175 Anyone who owns 10% or more of the capital shall appoint a person to represent him on the board of directors for the same percentage of the number of the board members. If he exercises this right, he shall loose his right to voting for the percentage for which he appointed a proxy. If the remaining percentage is not enough to appoint another member, he may use this percentage in voting. In all cases the number of board members shall be subject to the company's articles of association and the rules and procedures decreed by the Minister of Commerce and Industry.</p> <p>Article 176 The general assembly shall elect the board members by secret ballot and they shall be selected by relative majority of the valid votes.</p>
		Corporate Governance Code 2011	<p>Principle 1 The company shall be headed by an effective, collegial and informed board</p> <p>1.4 The board's representation of all shareholders.</p> <p>Each director should consider himself as representing all shareholders and should act accordingly. The board should avoid having representatives of specific groups or interests within its membership and should not allow itself to become a battleground of vested interests. If the company has a controlling shareholder (or a controlling group of shareholders acting in concert), the latter should recognise its or their specific responsibility to the other shareholders, which is direct and is separate from that of the board of directors. In companies with a controlling shareholder, at least one-third of the board should be independent directors. Minority shareholders should generally look to independent directors' diligent regard for their interests, in preference to seeking specific representation on the board.</p> <p>Recommendation: In companies with a controlling shareholder, both controlling and non-controlling shareholders should be aware of controlling shareholders' specific responsibilities regarding their duty of loyalty to the company and conflicts of interest and also of rights that minority shareholders may have to elect specific directors under the Company Law or if the company has adopted cumulative voting for directors. The chairman of the board should take the lead in explaining this with the help of company lawyers.</p>
Egypt	0	Egypt Code of Corporate Governance 2005 and 2011	<p>Corporate Governance Code (2005) 3.3 and Corporate Governance Code (2011) 3.2.5</p> <p>Egyptian laws stipulate that the board of directors shall be nominated for the purpose of representing the shareholders and the formation of the board should be representative of capital distribution. However, the rules governing voting enable the general assembly majority group to designate the entire board via voting for each nominee separately; accordingly, corporate governance necessitates that other ways, such as accumulative</p>

Appendix 1 Shareholder protection in MENA countries

3. Cumulative voting			
Country	Code	Law/ Regulation	Legal provision
			voting, be adopted in voting for board of directors members, or any other method that considers the capital distribution should be considered, so that the final result can be a reflection of the proportional representation of shareholders on the board.
Iran	1	Commercial Code of Iran as ratified on Esfand 1347 (March 1969)	Article 88 At a general meeting, all resolutions will be passed by the affirmative vote of fifty per centum plus one vote of those present at the meeting, except for the election of directors and inspectors for which a simple majority plurality shall be sufficient. In the case of election of the directors the number of votes of each voter shall be multiplied by the number of directors intended to be elected and the voting rights of each voter shall be the result gained from such multiplication. The voter may assign all his votes to one person or segregate that same between a number of persons. The articles of association may not include provisions contradictory to the above arrangement.
Iraq	0		No provision
Israel	0	Companies Law No. (5759) of 1999	Part VI: Office holders in a company Chapter 1: Directors' appointment and term of office Article E: Outside director duty to appoint Article 239 (a) Two outside directors shall hold office in a public company. (b) The outside directors shall be appointed by the general meeting, provided that one of the following conditions prevails: (1) in counting the votes of the majority at the general meeting at least one-third of all the votes of shareholders who are not holders of control in the company or representatives of such persons, present at the time of voting are included; in counting the total votes of such shareholders, abstentions shall not be taken into account; (2) the total number of votes opposing the appointment from among the shareholders referred to in paragraph (1) shall be no greater than one percent of the total voting rights in the company. (c) The Minister may prescribe different rates from the rate provided in subsection (b)(2). (d) In a company in which, on the date of appointment of an outside director, all members of the board of directors of the company are of one gender, the outside director appointed shall be of the other gender.
Jordan	0	Corporate Governance Code for Shareholding Companies Listed on the Amman Stock Exchange, 2008	Chapter two: The board of directors of a shareholding company 1. The administration of the company is entrusted to a board of directors whose members shall be not less than five and not more than thirteen, as determined by the company's memorandum of association. Principles of good corporate governance require that board members be elected by the company's general assembly in a secret ballot, by means of cumulative voting system, provided that at least one third of the board members are independent members. If the result in calculating the above- mentioned third is with a fraction, the fraction is removed by rounding the result to the next figure.

Appendix 1 Shareholder protection in MENA countries

3. Cumulative voting			
Country	Code	Law/ Regulation	Legal provision
Kuwait	0 pre 2012 and 1 post	Commercial Companies Law No. (15) of 1960	Article 142 Any shareholder may appoint representatives at the board of directors of the company proportionately to the shares he owns therein if his shareholding percentage allows him to do so. Shareholder may not dispose of these shares for the duration of membership for his representatives in the board of directors. The number of the board members selected in this way shall be deducted from the total elected members of the board. The shareholders having representatives in the board of directors shall not participate with other shareholders in electing the remaining members of the board. These representatives shall have the same rights and obligations of the elected members. The shareholder shall be responsible for the acts of his representatives towards the company, its creditors and shareholders.
		Kuwait Companies Law No. (25) of 2012	<p>Article 219 Any shareholder whether a natural or legal person, may appoint representatives at the board of directors of the company proportionately to the shares he owns therein. The number of the board members selected in this way shall be deducted from the total elected members of the board. The shareholders having representatives in the board of directors shall not participate with the other shareholders in electing the remaining members of the board, unless within the excess of the rate used in the appointment of their representatives in the board of directors. A group of shareholders may cooperate to appoint one or more representatives in the board of directors, at their combined ownership rate. These representatives shall have the same rights and obligations of the elected members. The shareholder shall be responsible for the acts of his representatives towards the company, its creditors and shareholders.</p> <p>Article 240 Voting for the candidates for the board membership of public joint stock companies shall be subject to the cumulative voting system, granting each shareholder a voting ability equivalent to the number of shares owned thereby, so he is entitled to vote for one candidate or distribute his votes among the candidates he selects without repetition of these votes.</p>
Lebanon	0	Lebanon on the Land Commerce, Decision No. (304) of 1942	Article 147. The general assembly elects the members of the board of directors from shareholders who own a minimum number of shares determined by the company's memorandum. These shares remain nominal and stamped to refer to the inadmissibility of transfer of these shares and deposited in the company to guarantee the responsibility of directors towards the administrative mistakes, whether personal or collective.
		The Lebanese Code of Corporate Governance (2006)	<p>D. The protection of minority shareholders in board composition Minority shareholders should be able to ensure election of an appropriate number of board members of their choice.</p> <p>III. Board of directors: Structure, responsibilities, and prerogatives 1.4 Every group of shareholders representing 10% of the company's share capital should be entitled to be represented by a board member of their choice.</p>
		Lebanon Corporate	<p>Article 7 Protection of minority shareholders</p> <p>c) Voting procedures for nomination of directors on the board should</p>

Appendix 1 Shareholder protection in MENA countries

3. Cumulative voting			
Country	Code	Law/ Regulation	Legal provision
		Governance Guidelines for Listed Companies (2010)	provide shareholders representing a specific minority percentage of the company's share capital with the right to have a representative on the board.
Morocco	0		No provision
Oman	1	Rules and Conditions for the Elections of Directors of Public joint stock companies and their Responsibilities (2002)	Article 4 The directors shall be elected by direct secret ballot by the shareholders. Each shareholder shall have a number of votes equal to that of the shares held by him. A shareholder shall have the right to use the entirety of his votes in support of one nominee or divide his shares among other nominees of his choice through the voting card. It follows that the total number of votes given to the nominees by one shareholder must be equal to the number of shares owned by him.
Palestine	0	Company Law No.(12) of 1964	Article 106 Nominations for membership of the board of directors (1) The memorandum of the company determines the number of shares required for any shareholder to be eligible as a nominee for the membership of the board of directors. The Minister may estimate this number based on the status of the company to ensure its interests and the interests of shareholders. (2) No candidate should be elected for membership if he does not have this number of shares. (3) The membership status is automatically cancelled if, during the term of membership, the number of shares held by that member falls below the required number of shares.
		Corporate Governance code 2009	3. Company management First: The board of directors 20. The public shareholding company must be administered by a board of directors whose members must not be less than 5 and not more than 11 members. It is preferable that the board reflects the composition of the shareholders and the distribution ratio of capital. Small shareholders who hold 10% of the company's shares may elect their representative in the board of directors provided they nominate a number of candidates to this position ... 24. Protection of minority shareholders: It is preferable to use cumulative voting at the polling station in order to choose board nominees by offering each shareholder a number of votes equal to his total shares multiplied by the number of board members. The shareholder may not give all his votes to one nominee or he may distribute his votes amongst the candidates as he wishes. It is preferable that all candidates to the board membership give the shareholder their C.Vs before election and voting at the General Assembly meeting in order to enable the shareholder to choose the right persons for

Appendix 1 Shareholder protection in MENA countries

3. Cumulative voting			
Country	Code	Law/ Regulation	Legal provision
			the company.
Qatar	0	Corporate Governance 2009	26.2 Shareholders shall have the right to cast their votes for board member's election by cumulative voting.
Saudi Arabia	0	Corporate Governance Regulations Resolution No. 1/212/2006 dated 21/10/1427AH	Article 6 (b) In voting in the general assembly for the nomination to the board members, the accumulative voting method shall be applied.
Sudan	0		No provision
Tunisia	0	Tunisia Companies Law No. (93) of 2000	Chapter 189 The company is managed by board of directors composed of at least three members and at most twelve members. There is no requirement for a member of the board of directors to be from shareholders unless the provisions of the company's memorandum indicate otherwise.
		Tunisia Code of Best Practice of Corporate Governance (2008)	2.1.3 The representation of minority shareholders The appointment of independent directors is a pledge for impartiality and for safeguarding minority shareholders' interests.
Turkey	0	Turkish Commercial Law No. (6102) of 2011	Article 434(4) The Ministry of Customs and Trade shall be authorised to regulate cumulative voting in non-public joint-stock company. Article 360 (1) Certain groups of shareholders and minorities shall be entitled to be presented in the board of directors if provided by the articles of association. In this context, members of the board of directors shall be elected among various groups of shareholders or minorities and groups of shareholders or minorities shall be granted the right to nominate members for the board. Except in cases based on justified grounds, it is a must to elect the candidate proposed by the general assembly or a shareholder belonging to a group of shareholders or minorities. In joint stock companies, the right of representation to be acquired in this manner shall not exceed two thirds of the number of members of the board of directors. (2) The shares entitled to be represented in the board of directors in accordance with the provisions of this article, shall be considered as privileged shares.
		Communiqué on Principles Regarding Cumulative Voting at	Article 3 To adopt cumulative voting regime, an explicit provision in the Articles of Association of the corporation is required. Cumulative voting is mandatory for corporations whose shares are not traded in the exchanges and whose total number of shareholders is determined to exceed 500 continuously for the last two years and these corporations are entitled to

Appendix 1 Shareholder protection in MENA countries

3. Cumulative voting			
Country	Code	Law/ Regulation	Legal provision
		Shareholders Meetings of Joint Stock Corporations Subject to Capital Market Law, No: 25024, Official Gazette (18 February 2003)	state this regime in their articles of association. The mentioned corporations are obliged to amend their articles of association to include provisions of cumulative voting in the next ordinary shareholders meeting following the occurrence of the stated condition. Cumulative voting is permissive for other corporations.
		Corporate Governance Principles of Turkey (2003 Amended, February 2005)	<p>Part I Shareholders</p> <p>5. Minority rights: Utmost care should be given to the exercise of minority rights.</p> <p>- The cumulative voting procedure should be adopted so as to ascertain that minority shareholders send their representatives to the board of directors.</p> <p>Part IV Board of directors</p> <p>3.4. Priority should be given to the use of cumulative voting in the election of the board of directors.</p> <p>Within the framework of the legislation, the procedure for the adoption of cumulative voting should be incorporated in the articles of association of the company. The board of directors should inform the shareholders about the cumulative voting system. The cumulative voting system should be used in line with its objective and members of the board should act duly sensitively in this subject.</p>
UAE	0	Decision No. (32/R) of 2007 Concerning on Corporate Governance Code for Joint-Stock Companies and Institutional Discipline Criteria and Ministerial Resolution No. (518) of 2009 Concerning Governance Rules and Corporate Discipline Standards	Article 12 (2) A Company's articles of association and internal regulations shall include necessary procedures and rules to ensure the exercise by all shareholders of all their regulatory rights including: ... c. provision of a biography of nominees to the membership of the board of directors before voting, including giving shareholders a clear idea of the practical experience and academic qualifications of nominees <u>and the selection of members shall be made by cumulative voting.</u>

Appendix 1 Shareholder protection in MENA countries

4. Oppressed minority			
Country	Code	Law/ Regulation	Legal provision
Algeria	0.5	Algerian Code of Commerce, Ordinance No. (75-59) of 1975	<p>Article 715 (bis) 24 In addition to the action for damages suffered personally, shareholders may, either individually or as a group, file a lawsuit against the directors. The plaintiffs are entitled to pursue compensation for all damages suffered by the company, to which, if any, damages are awarded.</p> <p>Article 715 (bis) 25 it is deemed void, any provision in the company's memorandum to make the exercise of filing a lawsuit conditioned on the notification notice or approval of the general meeting or waiving in advanced the filing of a lawsuit ...</p>
Bahrain	1	Commercial Companies Law Decree Law No. (21) of 2001	<p>Article 168 The shares shall confer equal rights and obligations. The member shall in particular have the following rights:</p> <p>v- Filing lawsuits to invalidate any resolution issued by the general assembly or by the board of directors in contravention of the law, the public order or the memorandum or the articles of association.</p> <p>Article 215 Without prejudice to the rights of bona fide third parties, any resolution passed by the general assembly in contravention of the provisions of the law, the company's memorandum of association or articles of association shall be null and void. The court may overrule any resolution passed to the advantage or disadvantage of a certain class of shareholders or to the benefit of the members of the board of directors or others without taking the company's interests into account. In this case, only those shareholders whose objection to the resolution has been put in the meeting's minutes or failed to attend the meeting for acceptable reasons may file the nullity action. The Ministry of Commerce and Industry may act on behalf of the said shareholders in filing the nullity action if serious reasons are given. A resolution adjudged by the court as null and void shall be deemed inexistent for all the shareholders, and the board of directors shall publish the judgment in a daily local newspaper. Filing the nullity action shall not entail suspension of the implementation of the resolution unless otherwise ordered by the court. A nullity action shall be barred after the lapse of one year from the date of the resolution.</p>
		Corporate Governance Code 2011	<p>Bahrain Courts. Court litigation is often a last resort, but it is available and it can be effective in enforcing the Company Law or this Code. Litigation could take many forms including a lawsuit by shareholders against a company or its directors, a lawsuit by a company (or shareholders acting in its name under the Company Law) against one or more directors, or a lawsuit by the MOIC, the CBB, the BSE or other agencies to enforce orders. In any such case, the court should take account of how well the parties have complied with this Code.</p>
Egypt	1	Companies Law No. (159) of 1981	<p>Article 76 Without prejudice to the rights of bona fide parties, any decision of the general assembly issued in contravention to the provisions of the law or the statutes of the company will be void. Likewise any decision issued in favour of a certain group of the shareholders, or in their prejudice, may be nullified, or if it aims at procuring special advantage to the members of the board of directors or others, disregarding to the interests of the company. The</p>

Appendix 1 Shareholder protection in MENA countries

4. Oppressed minority			
Country	Code	Law/ Regulation	Legal provision
			demand of nullification in this case can only be made by shareholders who had protested against the decision in the minutes of the meeting. The relevant administrative authority may act on shareholders' behalf in the application for nullification, if they invoke substantive reasons. The decision of nullification involves the consideration of the decision as inexistent with respect to all shareholders. The board of directors shall publicise the decision of nullification in one of the daily newspapers and in the paper of the companies. The action for nullification will be foreclosed by the lapse of one year after the decision was made. The bringing of a law suit does not entail stoppage of the execution of the decision unless this is ordered by the Court.
		Capital Market Law No. (95) of 1992	Article 10 The Board of the Capital Market Authority, upon a petition on substantive reasons by a number of shareholders who own no less than five percent of the company shares, may suspend, after verification, the decisions of the general assembly of the company that are taken unfairly in favour of a specific group of shareholders, or causing harm to them, or unfairly bringing about a benefit to the members of the board of directors or others.
		Decree No. (135) of 1993. Executive Regulations of Capital Market Law No. (95) of 1992	Formats for the Statute of the Company: General Assembly: Article 48 ...The Board of the Capital Market Authority, upon a petition on substantive reasons by a number of shareholders who own no less than five percent of the company nominal shares, after verification, suspend the decisions of the general assembly of the company that are taken unfairly in favour of a specific group of shareholders, or causing harm to them, or unfairly bringing about a benefit to the members of the board of directors or others. Article 51... Each shareholder can apply to nullify any decision made by the general assembly or the board of directors in favour of a specific group of shareholders, or causing harm to them, or unfairly bringing about a benefit to the members of the board of directors or others, disregarding to the interests of the company.
Iran	0.5	Commercial Code of Iran as ratified on Esfand 1347 (March 1969)	Article 276 An individual or individuals who hold at least one-fifth of the total shares of the company may sue the chairman, directors or the managing director of the company at their own expense and demand indemnity for the losses which have incurred on the grounds of infringement or fault on the part of the said chairman, directors or managing director. If the chairman or any of the directors or the managing director are held responsible by the court, they will be bound to indemnify the company and pay the legal expenses to the company. The charges borne by the claimant shall be refunded out of the amounts adjudged in favour of the company. If the claimants lose their case, then they shall be held responsible for the payment of legal expenses. Article 277 The provisions of the articles of association and the resolution of general meetings shall not impose restrictions on the shareholders in bringing legal proceedings against the directors.
Iraq	0.5	Companies	Article 100 Holders of five percent of the shares of the company can object to

Appendix 1 Shareholder protection in MENA countries

4. Oppressed minority			
Country	Code	Law/ Regulation	Legal provision
		Law No. (21) of 1997	the general assembly's decisions before the Registrar within seven days from their adoption. The Registrar shall issue his decision 15 days from the submission of the objection. His decision can be contested before the competent district court within seven days from the date of notification. The court must examine such objections urgently, and its decision on them shall be final.
Israel	0.5	Companies Law No. (5759) of 1999	<p>Part V: The shareholder</p> <p>Chapter 2: Rights and obligations of shareholders</p> <p>Rights in cases of discrimination 191</p> <p>(a) Where the company's business is run in a way that constitutes discrimination against all or some of its shareholders, or in a way that gives rise to a real apprehension that the company's business will be run in such a way, the court may, at the request of a shareholder, give such instructions at it sees fit to remove or prevent such discrimination, including instructions for running the company's business in the future, or instructions to the shareholders of the company under which either they or the company itself is to purchase its shares, subject to the provisions of section 301.</p> <p>(b) Where the court rules as provided in subsection (a), appropriate alterations shall be made in the company's articles of association and in its resolutions, as the court may determine, and such alterations shall be considered to have been lawfully made by the company; a copy of the resolution shall be sent to the Companies Registrar, and if the company is a public company, to the Securities Authority.</p>
Jordan	0.5	Jordanian Companies Law No. (22) of 1997	<p>Article 157 The violation of company bylaws by the chairman and the members of the board of directors</p> <p>a) The chairman and the members of the public shareholding company board of directors shall be held responsible towards the company, shareholders and others for every violation committed by any of them or all of them of the laws and regulations in force and of the company memorandum of association and for any error in the management of the company. The consent of the general assembly for absolving the board from its responsibility shall not prevent legal recourse against the chairman and the board of directors.</p> <p>b) The liability stipulated in paragraph (a) of this Article shall be either personal, borne by one or more member of the board of directors, or collective, borne by the chairman and the members of the board of directors, and in such a case, they shall be jointly and severally liable for compensating the damage that results from the said violation or mistake. A member who has already objected to the decision containing the violation or mistake in the minutes of the meeting shall not be liable for such compensation. In all cases, the claim regarding this responsibility shall cease after the lapse of five years from the date the general assembly meeting during which the company annual balance sheet and its final accounts were approved.</p> <p>Article 159 Responsibility of the company chairman, board of directors' members, for default and negligence in the management of the company. The public shareholding company chairman and the board of directors' members shall be jointly and severally responsible towards shareholders for</p>

Appendix 1 Shareholder protection in MENA countries

4. Oppressed minority			
Country	Code	Law/ Regulation	Legal provision
			<p>any default or negligence in the management of the company. However, upon the liquidation of the company and the appearance of a deficit in its assets, in a manner that renders the company unable to meet its obligations, and should the reason for such a deficit be the default or negligence of the chairman and members of the board or its general manager or auditors, the court shall have the right to hold any of the aforesaid persons liable for the debts of the company in full or in part, as the case may be. The court shall determine the amounts the said persons are liable for and whether they are jointly liable in the loss or not.</p> <p>Article 160 The right to file a court action The Controller, the company and any shareholder therein shall have the right to file a case with the court in accordance with the provisions of Articles 157, 158 and 159 of this Law.</p> <p>Article 183 The binding power of the general assembly decisions and the ability to contest a) Decisions issued by the general assembly of a public shareholding company at any of its meeting that convenes with the presence of a legal quorum, shall be binding upon the board of directors and all shareholders, whether they attended the said meeting or not, provided that these decisions have been adopted in accordance with the provisions of this Law and the regulations issued in pursuance. b) The Court shall have jurisdiction to look into and settle any case that may be presented for the purpose of contesting the legality of any of the meetings of the general assembly, or contesting the decisions issued at any one of these meetings. Such contesting shall not halt the implementation of any decision of the general assembly unless the Court decides otherwise. Such a case shall not be considered after the lapse of three months from the date of the meeting.</p>
		Corporate Governance Code for Shareholding Companies Listed on the Amman Stock Exchange, 2008	<p>Chapter Four: Shareholders' rights The company shall take appropriate measures to ensure that shareholders enjoy their rights in a manner that would achieve justice and equality without discrimination. These rights include mainly: Section one: general Rights 8. Filing a lawsuit against the board of directors or any of its members claiming compensation for damages incurred as a result of a violation of the legislations in force or of the company's memorandum of association or any mistake or negligence in administering the company, or of disclosure of company secrets. 9. Filing a lawsuit against the company's general manager or any of the company's employees claiming compensation for damages incurred as a result of disclosing the company's secrets. 13. Filing a lawsuit to contest the legality of any general assembly meeting or to contest the decisions taken in that meeting within three months of the meeting.</p>
Kuwait	1	Commercial Companies Law No. (15)	<p>Article 131 A shareholder shall, particularly, benefit of the following rights: Fifth- Proceeding an action of invalidity of each decision, issued by the general assembly or the board of directors, violating the law, public order, the</p>

Appendix 1 Shareholder protection in MENA countries

4. Oppressed minority			
Country	Code	Law/ Regulation	Legal provision
		of 1960	<p>article of incorporations or the policy.</p> <p>Article 133 The general assembly should not ... Fourth, restrict the shareholder's right to seek remedy for the damages he suffered against the board of directors whether the violation has been done collectively by the directors or individually by a single director ...</p> <p>Article 136 Shareholders representing 15% of the nominal capital, and who have not approved the decision in the extraordinary general assembly in Article 135, are permitted to file a lawsuit against the decision rendered prejudice to their rights within thirty days from the date of the decision ...</p>
		Kuwait Companies Law No. (25) of 2012	<p>Article 234 The company may bring liability lawsuit against the members of the board because of the mistakes resulting into damage to the company. Should the company be under liquidation, the liquidator shall take charge of bringing the lawsuit.</p> <p>Article 235 Every shareholder may bring liability lawsuit alone on behalf of the company in case the said company fails to do so. In such event, the company shall be contesting in the lawsuit to be granted compensation, if necessary. The shareholder may bring his personal lawsuit claiming compensation in case the mistake caused damage thereto. Any condition in the memorandum of the company stipulating otherwise shall be null and void.</p> <p>Article 251 Every shareholder may bring an action of nullity against any decision that is issued by the board of directors, the ordinary or extraordinary general assembly and violating the Law or the memorandum of the company or was intended to damage the company's interests, and may claim compensation when appropriate. The action of nullity shall abate after two months from the date of issuance of the assembly's decision or the knowledge of the shareholder of the board's decision. The decisions of the ordinary and extraordinary general assembly causing prejudice to the rights of the minority may be appealed by a number of shareholders owning fifteen percent of the company's issued capital and they shall not be among the shareholders who approved such decisions. This action shall abate after two months from the date of the assembly's decision. In such event, the Court may support, amend or cancel the decisions or postpone their implementation until the proper settlement for the purchase of the objectors' shares, provided that these shares are not purchased from the company's capital.</p>
Lebanon	0.5	Lebanon on the Land Commerce, Decision No. (304) of 1942	<p>Article 166 The members of the board of directors are responsible, even towards third parties, for all acts of fraud and for each violation of the law and the company's memorandum. The aggrieved is entitled to bring a lawsuit individually and the lawsuit should not be dropped even if shareholders vote of the general assembly to discharge the members of the board.</p> <p>Article 167 The member of the board of directors are also responsible towards the shareholders for the administrative mistake. And in general the members of the board of directors are not responsible towards third parties for administrative mistake...</p> <p>Article 168 The company has the right to file a lawsuit against the members</p>

Appendix 1 Shareholder protection in MENA countries

4. Oppressed minority			
Country	Code	Law/ Regulation	Legal provision
			of the board of directors on the basis of the first paragraph of the previous article. If the company fails to do so each shareholder is entitled to act on its behalf proportional to his shareholding percentage in the company.
		The Lebanese Code of Corporate Governance (2006)	III. Board of directors: Structure, responsibilities, and prerogatives The board of directors is entrusted with the duty of ensuring the proper management of the company in the best interest of the company and all shareholders in accordance with applicable laws and regulations. This duty may not be delegated and is proper to the board who shall assume the final responsibility to the company and its shareholders regardless of whether the board constitutes special committees or authorises other persons or entities to undertake specific operations. The board is responsible for setting the strategic direction and conducting managerial oversight, including day to day operations. <u>Failure to comply with the fiduciary duties mandated herein should subject the board and individual board members to liability to any aggrieved shareholder.</u>
		Lebanon Corporate Governance Guidelines for Listed Companies (2010)	Article 7 Protection of minority shareholders b) The board must ensure, whenever there is a majority shareholder, that his strategy is coherent and in the interests of the company and all shareholders. Minority shareholders should be protected from direct or indirect abusive action by or in the interests of controlling shareholders. d) Dissenting minority Shareholders with regards to decisions adopted at a large majority at the shareholders' assembly with regards to (i) mergers or demergers, (ii) right to dividends, and (iii) modification of voting rights should be given a right to withdraw from the company at a fair market price pursuant to a procedure that should be consecrated in the company's bylaws. Part 3 Board of directors Article 8: General responsibilities of the board e) Failure to comply with the duties mandated herein should subject the board and/or individual board members, as the case may be, to liability to any aggrieved shareholder.
Morocco	0.5	Companies Law No. (17) of 1995	Article 352 Directors, the CEO and, where appropriate, the chief operating officer or board members are responsible, individually or jointly, as appropriate, to the company or to third parties, for offenses against laws or regulations applicable to corporations, or violations of articles of association or mistakes in their management. ... Shareholders, on the basis of the first paragraph, who intend to apply for compensation for the damage they have suffered personally due to acts of directors, board members or the CEO and, deputy CEO, may give one or more of them a mandate to act on their behalf before the competent court ... Article 353 In addition to action for damages suffered personally, shareholders may, either individually or as a group bring action for damages in the name of the company against the directors, the CEO and, where appropriate, the deputy CEO or members of the executive board. The plaintiffs are entitled to pursue compensation for all damages suffered by the

Appendix 1 Shareholder protection in MENA countries

4. Oppressed minority			
Country	Code	Law/ Regulation	Legal provision
			company, to which, if any, damages are awarded ...
Oman	1	Commercial Companies Law No. (4) of 1974	<p>Article 10 No case shall be filed for claims arising under the provisions of this Law against or among partners of commercial companies regarding the company's memorandum or articles of association or the company's acts, or against the company's managers, directors, auditors or liquidators, or against the heirs or successors of any of them for the acts they performed during the exercise of their functions, unless such case is filed within a period of five years effective as from the most recent of the following dates:</p> <p>a) The date of the act or negligence forming the basis of complaint.</p> <p>b) The date of the general meeting at which the board of directors presented the financial statements of the company for the period that includes the act or the negligence forming the basis of the case filed against the directors of a joint stock company.</p> <p>Article 75 All shares of a joint stock company shall enjoy equal and inherent rights in the ownership thereof, namely, the right to receive dividends declared by the general meeting, the pre-emptive right of subscribing for new shares, the right to share in the distribution of the company's assets on liquidation, the right to transfer shares in pursuance of the Law, the right to view the company's balance sheet, the profit and loss accounts and the shareholder registers, the right to be notified of the meetings of the general meeting and to participate and vote in such meetings personally or by proxy, <u>the right to apply for annulment of any decision made by the general meeting or the board of directors if such decision is contrary to the Law, or the company's articles of association or the company's internal regulations, and the right to sue directors and the auditors of the company on behalf of the share holders or on behalf of the company pursuant to Article 110.</u></p> <p>Article 110 The company may institute an action against any director of the company it deems liable for damages that have come upon it under the provisions of the preceding Article. The board of directors or the ordinary general meeting shall take a decision appointing a person to pursue the case on behalf of the company and authorising him to pay the costs of the case from the funds of the company. However, if the company is under liquidation, the decision to file the case shall rest with the liquidator of the company. Any shareholder may propose suing the members of the board of directors, and if the ordinary general meeting does not adopt his proposal, he may himself file the case on behalf of the company. And if the case is successful, such shareholder shall be reimbursed the costs and expenses of the case out of the sums adjudged and the balance shall be paid to the company.</p> <p>Article 126 The resolutions of the general meeting duly adopted pursuant to the provisions of the Law and the company's articles of association, if any, shall be binding to the company and each of its shareholders, but shall not affect the rights of third parties except to the extent provided by this Law. Any shareholder or any other interested person may, within five years from the date of the general meeting, apply to the competent court to decide the annulment of any resolution if adopted by such general meeting in violation of the Law or the provisions of the company's articles of association or its</p>

Appendix 1 Shareholder protection in MENA countries

4. Oppressed minority			
Country	Code	Law/ Regulation	Legal provision
			regulations, if any, or if adopted by fraud or abuse of authority by any person.
		Oman Capital Market Law, Royal Decree No. (80) of 1998	Article 8 The Authority's board of directors may, upon material reasons raised by shareholders who own at least 5% of the company's shares, suspend the resolutions of the general meetings which are made in favour of a certain category of shareholders or against a certain category of shareholders, or in the interest of the members of the board of directors or others. The parties concerned may request the Appeals Committee specified in this Law within 15 days from the date on which the resolution of suspension was passed, to invalidate the resolutions made by the general assembly. The Committee's decision shall in such case be final. Should such period lapse without any measures being taken thereon, then the decision of suspension shall be null and void.
Palestine	0.5	Company Law No.(12) of 1964	Article 128 The responsibility of the chairman and board of directors for violations (1) The chairman and the board of directors are responsible for all violations committed against the laws, regulations and general instructions or the company's memorandum. (2) The lawsuit brought by the plaintiff is personal. Discharging the board of directors by the general assembly does not preclude the establishment of the lawsuit by the shareholders. Article 130 The right to bring a lawsuit against the chairman and the members of the board of directors The company has the right to bring a lawsuit under the preceding two articles. If the company does not exercise this right, every shareholder has the right to bring a lawsuit on behalf of the company to the extent of his shareholding in the company.
		Corporate Governance code 2009	3. Company management First: The board of directors 22. The director and/or board members are responsible towards the shareholders in the event of any intentional and severe negligence unless they prove that they have cared for the management of the company. The disadvantaged shareholder may sue the director and the members of the board for the violation committed against the law, regulations, instructions or the statute of the company.
Qatar	0.5	Qatar Commercial Companies Act No. (5) of 2002	Article 114 The company can file the case of responsibility against the board members for the mistakes causing damages for a group of shareholders within five years from the occurrence of the mistake or negligence. The ordinary meeting of the general assembly will take the decision regarding this case and appoint a representative of the company to run the case. If the company is under liquidation, the liquidator will undertake filing the case based on the decision from the general assembly. Article 115 Every shareholder can file the case independently if the company fails to file the case, if the mistake has caused personal damage for him as a shareholder, provided that he should inform the company of his intention to

Appendix 1 Shareholder protection in MENA countries

4. Oppressed minority			
Country	Code	Law/ Regulation	Legal provision
			<p>file the case. Any condition in contrary to this provision in the statute of the company will be null and void.</p> <p>Article 136 Without prejudice to the rights of bona fide parties all decisions issued in violation to the provisions of this Law or the statute of the company will be invalidated. ...Any decision issued to protect the interest of a particular group of the shareholders or damaging them or bringing any special benefit for the board members or others without considering the interest of the company may be invalidated. The invalidation judgement of a decision makes it as it was never issued. The board of directors should publish the invalidated decision in two local newspapers published in Arabic. The invalidation claim will not be considered after passing one year on the issue of the challenged decision. The filing of the case will not cause for the suspension of the decision unless the court orders otherwise. The invalidation claim will not be filed except by the shareholders who opposed the decision and established their objection in the report of the meeting or those who were absent in the meeting for any acceptable reason.</p>
Saudi Arabia	1	Companies Regulations, Royal Decree M/6 of 1385 Hijri	<p>Article 77 The company may file a liability claim against directors for wrongful acts that cause prejudice to the body of stockholders. The resolution to file this claim shall be made by the regular general meeting, which shall appoint a person to pursue the claim on behalf of the company. If the company is adjudged bankrupt, the right to file the claim shall transfer to the bankruptcy trustee, and upon the dissolution of the company, the liquidator shall pursue the claim after obtaining the approval of the regular general meeting.</p> <p>Article 78 Every stockholder shall have the right to file a liability claim against directors on behalf of the company if the wrongful act committed by them is of a nature to cause him personal prejudice. However, the stockholder may file such claim only if the company's right to file it is still valid and after notifying the company of his intention to do so. If a stockholder files such claim, he shall be adjudged compensation only to the extent of the prejudice caused to him.</p> <p>Article 108 (1) The shareholder is confirmed to have all the rights related to the share, and in particular the right to receive a portion of the profits determined to be distributed, the right to receive a portion of the company's assets upon liquidation, the right to attend the assemblies of shareholders and participate in its deliberations and vote on decisions, the right to dispose of shares, the right to request access on the company's books and documents, <u>and to monitor the work of the board of directors and bring a claim of liability against the members of the board and appeal the invalidity of the decisions of the shareholders' assemblies.</u> All this shall be conducted according to the conditions and restrictions contained in this regulation or in the company's regulation.</p>
		Corporate Governance Resolution	<p>Article 3 A Shareholder shall be entitled to all rights attached to the share, in particular, the right to a share of the distributable profits, the right to a share of the company's assets upon liquidation; the right to attend the general</p>

Appendix 1 Shareholder protection in MENA countries

4. Oppressed minority			
Country	Code	Law/ Regulation	Legal provision
		No. 1/212/2006 dated 21/10/1427AH	assembly and participate in deliberations and vote on relevant decisions; the right of disposition with respect to shares; the right to supervise the board of directors activities, <u>and file responsibility claims against board members</u> ; the right to inquire and have access to information without prejudice to the company's interests and in a manner that does not contradict the Capital Market Law and the Implementing Rules.
Sudan	0.5	Sudan Companies Act of 1925	<p>131 (1) The Registrar may, at the request of at least a hundred shareholders or shareholders representing at least ten per cent of the number of issued shares for any of the companies, appoint one or more qualified inspectors to inspect the company's operations and to report thereon in the manner specified by Registrar.</p> <p>(2) Evidence supporting the request must be presented to the Registrar for the purpose of proving that the applicants have reasonable grounds to demand the inspection.</p> <p>132. without prejudice to the powers of the Registrar under the provisions of Article 131:</p> <p>(A) The Registrar must appoint one or more competent inspectors to examine the operations of the company and to report thereon in the manner specified by the Registrar, if requested by:</p> <p>(I) the company, in a special resolution, or</p> <p>(II) the court order that the company's operations should be examined by an inspector appointed by the Registrar,</p> <p>(B) The Registrar may take such action:</p> <p>(I) If the information and explanations required to be submitted to the Registrar under the provisions of Article 130 are not provided within the period specified, or if the Registrar after reading the document referred to in that article reveals unsatisfactory matters in the affairs of the company or that it does not show adequate and acceptable clarification for the matter to which it relates, or</p> <p>(II) If it appears to the Registrar that there are circumstances to suggest that:</p> <ul style="list-style-type: none"> - The company's operations are managed or were managed with the intention to cheat on creditors or shareholders or any other person or for the purpose of fraud or illegal purpose, or in a manner prejudicial to any of the group members of the company, or that the company has been established for the purpose of fraud or illegal purpose, or - People who established or managed the company had been convicted in relation to that establishment or management or fraud or deviation in their behaviour or convicted of disgraceful behaviour towards the company or to its members, or - The shareholders of the company have not been informed about all the information related to the company's operations, which was reasonable to expect shareholders to receive.
Tunisia	0.5	Tunisia Companies Law No. (93) of 2000	<p>Chapter 220 The company files a lawsuit against the members of the board of directors based on a decision of the general assembly, which could be taken if it is not listed on its agenda ...</p> <p>Each shareholder/s has/have at least five percent of the company's capital for</p>

Appendix 1 Shareholder protection in MENA countries

4. Oppressed minority			
Country	Code	Law/ Regulation	Legal provision
			<p>a private company or three percent for a public company or if the shareholder/s capital is not less than one million dinars and he/they is/are not members of the board of directors, has/have the right to file a lawsuit, in the context of common interest, against the members of the board of directors for wrongdoing in exercising their functions. The general assembly cannot take a decision to give up the case. Any provision contrary to the company's memorandum shall be void ... The foregoing shall not preclude the shareholders to intimate lawsuit by himself and in his own name.</p> <p>Article 290 Shareholders holding at least ten percent of the share capital may request to cancel decisions contrary to the company's memorandum or adversely affects the interests of the company, and in favour of the interests of one or a few shareholders or for the benefit of a third party ...</p>
Turkey	1	Turkish Commercial Law No. (6102) of 2011	<p>Article 391 (1) Application may be made to the court for invalidation of the board of director resolutions. Especially, those;</p> <p>a) Contrary to equity principle,</p> <p>b) Ignoring fundamentals of joint stock company or the principle stipulating protection of the capital,</p> <p>c) Infringing vested rights of the shareholders or restricting use of these rights,</p> <p>d) Interfering other organs' non-transferable powers and related to transfer of these powers,</p> <p>shall be null and void.</p> <p>G) Annulment of resolutions passed by the general assembly</p> <p>I-Causes of Annulment</p> <p>Article 445 (1) The persons listed in Article 446 shall be entitled to file a suit of nullity, within three months as of the date of resolution, in the basic commercial court at the place where company's head office is domiciled, against the resolutions passed by the general Assembly contrary to the provisions of the law and articles of association and rule of honesty.</p> <p>II- Persons entitled to file suit of nullity</p> <p>Article 446-(1)</p> <p>a) Those who are present in the meeting and casting vote against the resolution and confirming this opposition in the minutes of meeting,</p> <p>b) Irrespective of the fact whether or not attended to the meeting, or casted voted against the resolution; those who declare the procedure adopted during announcement of the call or preparation of agenda improper; or allege participation of unauthorised persons in the general assembly meeting in such a way to affect the resolutions,</p> <p>c) Board of directors,</p> <p>d) Each one of directors, in cases where enforcement of resolution brings extra burden for the board members,</p> <p>shall be entitled to file a suit of nullity.</p>
		Capital Markets Law No. (2499) of 1981	<p>Article 12 ... In the circumstances enumerated in the first subparagraph of Article 381 of the Turkish Commercial Code, members of the board of directors, auditors and shareholders whose rights have been violated by decisions of the board of directors pursuant to this article may, open a suit in</p>

Appendix 1 Shareholder protection in MENA countries

4. Oppressed minority			
Country	Code	Law/ Regulation	Legal provision
			annulment case within thirty days following the announcement of the decision at the commercial court at the location of the headquarters of the corporation. In this case, the provisions of Articles 382, 383 and 384 of the Turkish Commercial Code related to the annulment of general assembly decisions are applied.
UAE	0.5	Commercial Companies law No. (8) of 1984	<p>Article 113 The company shall have the right to institute an action against the board of directors due to such defaults as would cause damages to all shareholders. A general assembly's resolution shall be required assigning the body who would institute the action in the company's name. If the company is in the state of liquidation, then the liquidator shall undertake the action after a general assembly's resolution.</p> <p>Article 114 In the event of an act causing particular damage to a shareholder, he, in his capacity as a shareholder, may institute an action in his own right if the company failed to redress the same, provided that he had notified the company of his intent to do so. Any provision in the company articles of association to the contrary shall be hereby revoked.</p> <p>Article 136 Without prejudice to the rights of bona fide third parties, any resolutions made inconsistent with the provisions of this law or articles of association shall be null and void. Any resolution, made in favour of or causing damage to, a particular group of shareholders or that may afford a special privilege to the board members or others regardless of the company's interests shall be abrogated. In the event of abrogation of a resolution, such resolution shall be deemed not existing with regard to all the shareholders. The board should publish the abrogation in two Arabic daily local news papers. ...</p>

Appendix 1 Shareholder protection in MENA countries

5. Pre-emptive rights			
Country	Code	Law/ Regulation	Legal provision
Algeria	0	Algerian Code of Commerce, Ordinance No. (75-59) of 1975	<p>Article 694 The shares carry a preferential right to subscribe to capital increases. The shareholders, in proportion to their shares, have a preferential right to subscribe for cash shares issued to increase the capital. Any provision to the contrary is void. During the term of the subscription, rights may be traded when the title is detached from the shares themselves; otherwise, it is transferable under the same conditions as for the share itself. Shareholders may individually waive their preferential right.</p> <p>Article 697 (bis) The general meeting that decides the capital increase may cancel the preferential subscription rights. ...</p> <p>Article 700 The extraordinary general Meeting which decides the capital increase in favour of one or more persons, may cancel the preferential subscription rights of shareholders ...</p> <p>Article 715 (bis 44) Ordinary registered shares may, at the will of the constituent general meeting, be divided into two categories:</p> <ul style="list-style-type: none"> - The first category with superior voting rights to the number of shares held. - The second category with a priority subscription of new shares or bonds.
Bahrain	1	Commercial Companies Law Decree Law No. (21) of 2001	<p>Article 128 (i) The shareholders shall have priority right to subscribe for the new shares, and any condition to the contrary shall be deemed non-existent.</p> <p>Article 150 The company's shareholders shall have the priority right to subscribe for the convertible bonds if they express their desire to do so within a period not exceeding fifteen days from the date of calling them to use such right. The shareholder may use his priority right to subscribe for bonds in excess of his share in the company's capital if the offered bonds allow this.</p>
Egypt	0	Decree No. (135) of 1993. Executive Regulations of Capital Market Law No. (95) of 1992	<p>Article 30 The statute of the company may include a stipulation regarding the extent of the pre-emptive rights of the present shareholders to subscribe in the shares of capital increase by cash nominal shares and by observing the privileges determined for them in accordance with provisions of Article 9 hereof. The statute may not include a stipulation limiting this right to certain shareholders than others, and without prejudice to the rights that could be specified for the preferred shares. ...</p> <p>Article 32 By resolution of the extra ordinary general assembly upon the request of the board of directors or ... all or part of the shares issued for capital increase may be directly offered to public subscription without application of the priority rights specified for the shareholders by the company statute.</p> <p>Formats for the statute of the company: General assembly: Capital</p> <p>Article 18 Existing shareholders have the right to subscribe to any capital increase by cash nominal shares on a pro rata basis.</p>
		Decree No. (96) of 1982. Executive Regulations for	<p>Article 96 The statute of the company should stipulate the extent of the pre-emptive rights of the present shareholders to subscribe in the shares of capital increase by cash nominal shares. The statute may not include a stipulation limiting this right to certain shareholders than others, and without prejudice to</p>

Appendix 1 Shareholder protection in MENA countries

5. Pre-emptive rights			
Country	Code	Law/ Regulation	Legal provision
		Companies Law No. (159) of 1981	the rights that could be specified for the preferred shares. Article 98 By resolution of the extra ordinary general assembly upon the request of the board of directors ... all or part of the shares issued for capital increase may be directly offered to public subscription without application of the priority rights specified for the shareholders by the company statute.
Iran	0	Commercial Code of Iran as ratified on Esfand 1347 (March 1969)	Article 167 An extraordinary general meeting which approves an increase of capital by issuing new shares or authorises the board of directors to do so may at same time rescind the pre-emptive right of the shareholders in subscribing the whole or a portion of new shares provided, however, that such decision is taken after having reviewed the report of board of directors and that of the inspector or inspectors; otherwise such decision is rendered as null and void. NOTE: The report of the board of directors mentioned in this article shall contain the reasons for the increase of capital, depriving the shareholders from their pre-emptive rights, introducing the new person or persons to whom the new shares are to be allotted, the number and value of such shares, and the factors taken into consideration in arriving at such decisions.
Iraq	1	Companies Law No. (21) of 1997	Article 56 (3) Every shareholder has the priority to buy shares at the subscription price proportional to the number of the shares he owns. Shareholders shall be allowed to exercise this right within a period of 15 days from the date they are invited to do so. The invitation must state the beginning and end of the subscription period and the nominal value of the shares. If some shares are not subscribed after the period stipulated in the first paragraph of this Article, the board of directors may place the shares for sale in the Baghdad Stock Exchange market in the manner it deems suitable. Fourth. In the case of banks increasing capital by a sale of shares for cash, the company may issue shares without public subscription and/or without offering existing shareholders the right to participate, provided the following conditions are met: 1. The issuance is approved by a majority of the votes of the subscribed shares whose due installments have been paid; and 2. The Central Bank of Iraq concurs that the sale is for fair value, in view of all the circumstances, and is fair to shareholders not entitled to participate, in view of the benefit to the company as whole.
Israel	0	Companies Law No. (5759) of 1999	Part VII: Capital of the company Chapter 1: Securities and transactions therein Article C: Issue of securities Entitlement to participate in future allotments 290 (a) In a private company, the issued capital of which contains one class of shares, shares shall be offered to each shareholder in accordance with the proportion of each shareholder's holding of the issued share capital; the board of directors may offer another person the shares that a shareholder refused to

Appendix 1 Shareholder protection in MENA countries

5. Pre-emptive rights			
Country	Code	Law/ Regulation	Legal provision
			purchase or did not accept a tender offer before the final date fixed for such in the offer, unless otherwise prescribed in the articles of association. ⁸²
Jordan	0	Jordanian Companies Law No. (22) of 1997	Article 92 Registration of the company b) The shareholding company's articles of association and memorandum of association should include the following information: ... -Whether the shareholders and the holders of convertible bonds hold pre-emptive right to subscribe for any new issues to be made by the Company.
		Corporate Governance Code for Shareholding Companies Listed on the Amman Stock Exchange, 2008	Chapter Four: Shareholders' rights Section one: General rights The company shall take appropriate measures to ensure that shareholders enjoy their rights in a manner that would achieve justice and equality without discrimination. These rights include mainly:... 7. Priority to subscribe in any new share issuance by the company, before these shares are offered to other investors.
Kuwait	0	Commercial Companies Law No. (15) of 1960	Article 111 Every shareholder has the priority to subscribe to new shares proportionately to the shares owned by each one of them; a time-limit, not less than fifteen days, shall be granted for the exercise of the said priority right from the date of notifying the shareholders. The memorandum of the company may include a provision requiring the shareholders to waive their priority right to subscription or limit this right. Article 131 A member shall, particularly, benefit of the following rights: Sixth: Disposition of the shares owned by him and the priority in subscription in the new shares, in accordance with the provisions of the law.
		Kuwait Companies Law No. (25) of 2012	Article 160 Should the capital increase be decided by offering shares for public subscription, the shareholders shall have the priority to subscribe to new shares proportionately to the shares owned by each one of them, within fifteen days from the date of notifying them thereof, unless the memorandum of the company includes a provision requiring the shareholders to waive their priority right to subscription. The shareholder may assign his priority right to another shareholder or to third parties against a fee or free of charge according to what has been agreed upon between the shareholder and assignee.
Lebanon	1	Lebanon on the Land Commerce, Decision No. (304) of 1942	Article 105 The share entitles its owner certain inherent rights, the right to share dividends, and the priority right to subscribe in the capital increase, and the right to recover the par value, and the right to share the company's assets, and the right to vote in the general assembly, and the right to transfer his share. Article 112 Shareholders of all classes have the priority right to subscribe in

⁸² Shareholders of listed firms in Israel do not have pre-emptive rights.

Appendix 1 Shareholder protection in MENA countries

5. Pre-emptive rights			
Country	Code	Law/ Regulation	Legal provision
			<p>new share offering to increase the company's capital proportional to the percentage of old shares owned without diminution. And the extraordinary general meeting which approved the capital increase takes all measures to distribute the excess shares.</p> <p>Article 113 The extraordinary general assembly cannot prevent or limit or change the proportion of the priority right of current shareholders to subscribe in the new share capital ...</p>
		The Lebanese Code of Corporate Governance (2006)	<p>II. Shareholders' rights and obligations</p> <p>A. General rights of shareholders and key ownership functions 1. General principle</p> <p>Shareholders enjoy all rights conferred upon them by the Lebanese Code of Commerce including the right to vote at assemblies, the right to dividends, the right to transfer their shares, the preferential right to subscribe to capital increases, the right to vote on major transactions as well as all rights described in this Code.</p>
		Lebanon Corporate Governance Guidelines for Listed Companies (2010)	<p>PART 2 Rights of the shareholders</p> <p>Article 3: General rights of the shareholders</p> <p>Shareholders enjoy all rights conferred upon them by the Lebanese Code of Commerce, the by-laws of the Beirut Stock Exchange and all applicable laws and regulations, including (i) the right to participate and vote at assemblies, (ii) the right to dividends and the right to a share in the profits of the company, (iii) the right, subject to the provisions of the bylaws, to convey or transfer their shares, (iv) the preferential right to subscribe to capital increases, (v) the right to elect and dismiss members of the board, (vi) the right to approve on major transactions, (vii) the right to inquire and have access to relevant information on the company, and (viii) all rights described in these Guidelines.</p>
Morocco	0	Companies Law No. (17) of 1995	<p>Article 189 The shareholders have a preferential right to subscribe for new shares in proportion to the number of shares they own. Anything to the contrary is void. During the subscription period, this right is tradable or transferable under the same conditions applicable to the share itself. Shareholders may individually waive their preferential rights.</p> <p>Article 192 The meeting which decides or authorises a capital increase may cancel the preferential subscription rights for the entire capital increase or for one or more tranches of the increase ... The report of the board of directors or management must indicate the reasons for the proposed waiver of that right.</p> <p>Article 193 The general meeting which decides on capital increase may, in favour of one or more persons, cancel the preferential subscription rights.</p>
		Moroccan Code of Good Corporate Governance	<p>6) Vigilance on special operations</p> <p>The enterprise shall, with complete transparency, announce the impact of operations which might call into question the equitable treatment of shareholders. In particular, this refers to the dilution effect which might reduce certain shareholders' percentage of corporate capital (following a</p>

Appendix 1 Shareholder protection in MENA countries

5. Pre-emptive rights			
Country	Code	Law/ Regulation	Legal provision
		Practices (2008)	capital increase, merger, partial incorporation of assets, etc.) as well as the potential cost to shareholders of option grants, or share purchases, and debt/equity conversions.
Oman	1	Commercial Companies Law No. (4) of 1974	<p>Article 75 All shares of a joint stock company shall enjoy equal and inherent rights in the ownership thereof, namely, the right to receive dividends declared by the general meeting, <u>the pre-emptive right of subscribing for new shares</u>, the right to share in the distribution of the company's assets on liquidation, the right to transfer shares in pursuance of the Law, the right to view the company's balance sheet, the profit and loss accounts and the shareholder registers, the right to be notified of the meetings of the general meeting and to participate and vote in such meetings personally or by proxy, the right to apply for annulment of any decision made by the general meeting or the board of directors if such decision is contrary to the Law, or the company's articles of association or the Company's internal regulations, and the right to sue directors and the auditors of the company on behalf of the shareholders or on behalf of the company pursuant to Article 110.</p> <p>Article 76 Notwithstanding the provisions of the preceding Article, the company's articles of association may provide the division of the capital of the company, into shares of different categories in order to give the shareholders of each category the right to elect, by majority of their votes, a certain member of proportion of the members of the board of directors. If the company has different categories of shares, then every increase in the capital shall lead to a proportionate increase in the number of the shares of each category unless a special meeting of each category and an extraordinary general meeting of all the shareholders approve an unequal issue or the creation of a new category of shares. No decision made by the general meeting shall affect the rights of any category unless such a decision is approved by such class in a special meeting. The special meetings of each class shall be held by the members of the concerned class in accordance with the rules that govern extraordinary general meetings. Shareholders of a certain category shall have the pre-emptive right of subscribing only for the new shares of the same category.</p> <p>Article 83 Each shareholder has a pre-emptive right, in case of offering shares for public subscription, to subscribe for a number of new shares in proportion to the number of shares owned by him. Written notice of such pre-emptive right shall be sent to each shareholder at his address recorded on the Shareholders' Register along with a copy of the prospectus approved by the Capital Market Authority. This notice shall also be published in at least two daily newspapers, on two consecutive days, after the notice has been first approved by the concerned authority, specifying the period during which the pre-emptive right may be exercised, which shall not be less than fifteen days from the date of publication thereof. Any shareholder may, in accordance with the procedures and the provisions issued by the Minister of Commerce and Industry, waive its above mentioned pre-emptive right. If the offered shares or part of them were not subscribed for by the shareholders during the specified period, such shares shall be offered for public subscription in accordance with the procedures of subscription for the capital of a joint stock</p>

Appendix 1 Shareholder protection in MENA countries

5. Pre-emptive rights			
Country	Code	Law/ Regulation	Legal provision
			company under incorporation, provided such procedures are carried out by the board of directors of the company. The board may, in lieu thereof, reduce the increase in the share capital to the extent equivalent to the value of shares which has not been subscribed for.
Palestine	0	Company Law No.(12) of 1964	Article 81 Capital increase (6) the initial public offering rules should apply to the new share offering.
		Corporate Governance code 2009	2. Equal shareholder rights 19. The board of directors will guarantee for each shareholder including small shareholders and shareholders who live outside Palestine all rights conferred upon them by law, regulations, the applicable instructions in force and in accordance with this Code and company bylaws which are :...The priority right to subscribe in any new company's publication each as per his percentage of the shares.
Qatar	1	Qatar Commercial Companies Act No. (5) of 2002	Article 193 The shareholders have the priority of underwriting in the new shares. A shareholder is not allowed to withdraw from his right of priority in favour of specific individuals.
Saudi Arabia	0	Companies Regulations, Royal Decree M/6 of 1385 Hijri	Article 136 The shareholders have the priority to underwrite the new cash shares unless the regulation of the company includes giving up or restricting this right. The Council of Ministers may, upon the proposal of the Minister of Commerce after the agreement with the Minister of Finance and National Economy, cancel or restrict the right of priority for the following companies: A) Concessionaire B) That manages a public utility C) That is provided a subsidy by the government D) That is joined with the country E) That is engaged in banking business The provision of this paragraph applies to companies even if they were formed before it came into force. This article does not apply to the oil and mineral companies that work under special agreements issued by royal decrees. And the shareholders shall be informed by publication in a daily newspaper of the decision of increasing the capital and underwriting requirements. And it would be sufficient to notify them with this statement by registered letters if all the shares of the company are nominal. Each shareholder shows his desire in writing to use his right to priority within fifteen days from the date of publication or the notification referred to in the preceding paragraph. Those shares shall be distributed to the original shareholders who have asked for underwriting by what they have of the original shares provided that what they get does not exceed what they asked of the new shares. And the rest of the new shares shall be distributed to the original shareholders who have requested more than their portion by what they have of original shares provided that what they get does not exceed what they asked of the new

Appendix 1 Shareholder protection in MENA countries

5. Pre-emptive rights			
Country	Code	Law/ Regulation	Legal provision
			shares. And the remaining new shares shall be floated for public underwriting and in this IPO (Initial Public Offering) the provisions related to underwriting by the capital of the company under foundation shall be followed. ...
Sudan	0	Sudan Companies Act of 1925	First schedule, Table A, Rules for managing joint stock companies 42 Before issuance, all the new shares must be offered to people, who at the time of the offering have the right to receive announcements from the company to attend the annual general meeting, proportional to the shares held and as far as circumstances permit, taking into consideration any instructions different than the above stipulated in the resolution which declares the capital increase. The offer should declare the number of shares offered and determines the period during which the offer should be exercised. After the expiration of such period or upon receiving a rejection notification from the person who was offered the new shares, the board of directors may dispose of the shares in the manner it deems more beneficial to the company. The board of directors may act in the same way in any new shares that cannot be easily offered in the manner set forth in this article because of the ratio of new shares to the shares held by persons who have the right to be offered the new shares.
Tunisia	0	Tunisia Companies Law, No. (93) of 2000	Article 296 The shareholders, in proportion to their shares, have a preferential right to subscribe in cash shares issued to increase the capital. Any clause contrary to this shall be void. During the subscription period, the preferential subscription right is negotiable when it is detached from the shares which are themselves tradable. Otherwise, the preferential right shall be transferable in the same conditions for the share itself. Shareholders may individually waive their preferential subscription rights. Article 300 The extraordinary general meeting which decides or authorises a capital increase may cancel the preferential subscription rights for the entire capital increase or any part or parts of this increase...
Turkey	0	Turkish Commercial Law No. (6102) of 2011	Article 461 (1) Each shareholder shall be entitled to acquire new shares in proportion of the shares owned in the company's capital. (2) The resolution of the board of directors related to capital increase and pre-emptive right of a shareholder shall only be limited on justified grounds and by the affirmative vote of the shareholders representing sixty percent of the basic capital. Especially, transfer of enterprise, sections of a plant and other similar assignments and participation of workers in the company shall be considered legitimate reasons. It shall not be allowed to cause damage or to secure benefit to any one through limitation or restriction of pre-emptive rights. (3) The board of directors shall assign the principles for exercising the rights in acquisition of new shares and grant to the shareholders at least fifteen days period. Registry of resolution shall be announced in the gazette pursuant to article 35. Besides it shall be published on the website. (4) Pre-emptive rights shall be transferable. (5) The company shall not hinder exercise of pre-emptive rights by the

Appendix 1 Shareholder protection in MENA countries

5. Pre-emptive rights			
Country	Code	Law/ Regulation	Legal provision
			shareholders by stating that the transfer of registered shares are limited in the articles of association.
		Capital Markets Law No. (2499) of 1981 ⁸³	Registered capital Article 12 ... In order for the board of directors to adopt resolutions to issue privileged shares and shares with a premium over their nominal value or to limit shareholders' pre-emptive rights, or to restrict the rights of holders of privileged shares, the articles of association must authorise such actions.
UAE	1	Commercial Companies law No. (8) of 1984	Article 204 The shareholders shall have priority to subscribe in new shares. Any term in articles of association or the resolution for increasing the capital stating otherwise shall be hereby revoked.

⁸³ Turkish Capital Markets Law allows the board of firms in the 'registered capital system' to issue new shares up to the authorized capital limit, without abiding by the provisions of the Code regarding capital increases.

Appendix 1 Shareholder protection in MENA countries

6. Capital to call a meeting			
Country	Code	Law/ Regulation	Legal provision
Algeria	0	Algerian Code of Commerce, Ordinance No. (75-59) of 1975	Article 676 The ordinary general meeting is held at least once a year, within six months of the closing of the financial year, the deadline is subject to extension at the request of the board of directors or the management board, as the case may be, by order of the competent court on request. This ordinance is not subject to any appeal.
Bahrain	1	Commercial Companies Law Decree Law No. (21) of 2001	<p>Article 198...The board of directors may invite the ordinary general assembly to convene upon a justified request by the auditor or by a number of shareholders representing at least 10% of the company's capital. The auditor may invite the ordinary general assembly to convene in the cases specified in article 218 of this law.</p> <p>The Ministry of Commerce and Industry may invite the general assembly to convene if a period of one month has lapsed from the date appointed for its meeting without it convening, or if the number of the board members becomes less than the minimum number required for the meeting to be valid, or if a number of shareholders representing at least 10% of the company's capital so requests for serious reasons.</p> <p>Article 211 The extraordinary general assembly shall convene at an invitation by the board of directors or a written request to the board of directors by a number of shareholders representing 10% at least of the company's shares.</p>
Egypt	1	Companies Law No. (159) of 1981	<p>Article 61 The general assembly is to be convoked by an invitation from the chairman of the board of directors at the time and place designated by the statute of the company. The general assembly should be held at least once a year, within six months after the end of the financial year for the company. The board of directors may decide to call for the general assembly meeting whenever a necessity arises. <u>The board of director should convoke the ordinary general assembly meeting if the auditor demands, or a number of shareholders representing at least 5% of the capital of the company,</u> provided that they express the motives behind demand, and that they deposit their shares in the headquarters of the company or at one of the approved banks; and such shares are not to be withdrawn except after dissolution of the general assembly.</p> <p>Article 70 The provisions relating to the ordinary general assembly are applicable to the extraordinary general assembly, with observance of the following:</p> <p>(a) The extraordinary general assembly meets upon an invitation of the board of administration. The board should address the invitation if it is asked by a number of shareholders representing one tenth of the capital at least, for serious reasons, and subject to the applicants depositing their shares at the head quarters of the company or in any approved bank. The shares should not be withdrawn except after dismissal of the assembly. If the board does not convoke the assembly during one month from the date of presentation of the demand, the applicants may have recourse to the relevant administrative authority which will assume addressing the invitation.</p>

Appendix 1 Shareholder protection in MENA countries

6. Capital to call a meeting			
Country	Code	Law/ Regulation	Legal provision
		Decree No. (96) of 1982. Executive Regulations for Companies Law No. (159) of 1981	Article 215 The following has the right to call the general shareholders' meeting...shareholders representing 5% of the capital. Article 226 The board of directors should call an extraordinary shareholders' meeting upon the request of shareholders representing at least 10% of the capital...
		Decree No. (135) of 1993. Executive Regulations of Capital Market Law No. (95) of 1992	Article 41 ...The board of directors convokes the general assembly meeting upon the request of the auditor or shareholders representing at least 5% of the nominal shares ... Article 47 ...the extra ordinary general meeting is to be convoked by an invitation from the board of directors. The board of director should convoke the extraordinary ordinary general assembly meeting upon a petition on substantive reasons by shareholders representing at least 10% of the nominal capital of the company provided that they deposit their shares in the headquarters of the company or at one of the approved banks; and such shares are not to be withdrawn except after dissolution of the general assembly. If the board of directors do not convoke the meeting within one month, shareholders can request the Capital Market Authority to convoke the meeting.
Iran	0	Commercial Code of Iran as ratified on Esfand 1347 (March 1969)	Article 95. Shareholders who hold at least one-fifth of the shares of a company are entitled to request the board of directors to call a general meeting. The board of directors shall be bound to call a general meeting within twenty days at the latest with due observance of the formalities. If this is not done, the said applicants may ask the inspector or inspectors of the company to make such a call. The inspector or inspectors must call a meeting within ten days otherwise such shareholders shall be allowed to call general meeting directly, provided that they have performed all the formalities pertaining to the call. The notice of the call should include a statement to the effect that their request was not met by the board of directors and inspectors.
Iraq	1	Companies Law No. (21) of 1997	Article 87 The invitation to a meeting of the general assembly shall be issued by one of the following bodies or persons: Second: The chairman of the board of directors of the joint stock company under a decision by the board, and the managing director in other companies; or at the request of company members who own not less than 10 percent of its paid-up capital.
Israel	1	Companies Law No. (5759) of 1999	Part III: Structure of the company Chapter 2: The General meeting Article B: Annual general meeting and special general meeting Convening of special general meeting 63 (a) The board of directors of a private company may resolve to convene a special general meeting, and shall so convene at the demand of any one of the following:

Appendix 1 Shareholder protection in MENA countries

6. Capital to call a meeting			
Country	Code	Law/ Regulation	Legal provision
			<p>(1) one director;</p> <p>(2) one or more shareholders holding at least ten percent of the issued capital and at least one percent of the voting rights in the company, or one or more shareholders with at least ten percent of the voting rights in the company.</p> <p>(b) The board of directors of a public company may resolve to convene a special general meeting, and shall so convene at the demand of any of the following:</p> <p>(1) two directors or one-quarter of the directors in office;</p> <p>(2) one or more shareholders with at least five percent of the issued share capital and at least one percent of the voting rights in the company, or one or more shareholders with at least five percent of the voting rights in the company.</p>
Jordan	0	Jordanian Companies Law No. (22) of 1997	<p>Article 169 The date of the ordinary general assembly meeting</p> <p>The general assembly of a public shareholding Company shall hold at least one ordinary meeting per year inside the Kingdom, upon the invitation of its board of directors, on the date set by the board in agreement with the Controller, provided that this meeting shall be held within the four months following the end of the fiscal year of the company.</p> <p>Article 172 Invitation of the general assembly to an extraordinary meeting</p> <p>a) The general assembly of a public shareholding company shall hold an extraordinary meeting inside the Kingdom upon the invitation of the board of directors, or upon a written request submitted to the board from shareholders holding not less than one-quarter of the company subscribed shares, or upon a written request submitted by the company auditors or the Controller, should shareholders holding in person not less than 15% of the company subscribed shares request such a meeting.</p> <p>b) The board of directors shall invite the general assembly to the extraordinary meeting which the shareholders, the company auditors or the Controller has requested to be convened in accordance with the provisions of paragraph (a) of this Article, within a period not exceeding fifteen days from the date the board has been notified of that request. Should the board fail to direct such an invitation or refused to respond to the request, the Controller shall invite the general assembly to convene at the expense of the company.</p>
		Corporate Governance Code for Shareholding Companies Listed on the Amman Stock Exchange, 2008	<p>Chapter three: General assembly meetings</p> <p>2. The general assembly shall hold an ordinary meeting at least once a year, provided that it takes place within the four months following the end of the company's fiscal year. The general assembly may also hold an extraordinary meeting at any time in accordance with the legislations in force.</p> <p>Chapter four: Shareholders' rights</p> <p>The company shall take appropriate measures to ensure that shareholders enjoy their rights in a manner that would achieve justice and equality without discrimination. These rights include mainly:</p> <p>Section one: General rights</p> <p>10. Requesting an extraordinary general assembly meeting by shareholders who hold 10% of the company's subscribed shares.</p>

Appendix 1 Shareholder protection in MENA countries

6. Capital to call a meeting			
Country	Code	Law/ Regulation	Legal provision
Kuwait	1	Commercial Companies Law No. (15) of 1960	Article 154 The general assembly is held once a year in the time and place specified in the memorandum of the company. The board of directors may decide to call for the general assembly meeting whenever a necessity arises. The board of director should convoke the ordinary general assembly meeting if the auditor demands, or a number of shareholders representing at least 10% of the capital of the company,...
		Kuwait Companies Law No. (25) of 2012	Article 237 The annual ordinary general assembly shall hold a meeting at the invitation of the board of directors within three months following the end of the fiscal year, in the time and place specified in the memorandum of the company. The board may invite the assembly for a meeting whenever necessary and it may hold the meeting upon a justified request of a number of shareholders owning ten percent of the company's capital, or at the request of the auditor, within fifteen days from the date of request. The authority convening the meeting shall prepare the agenda. The provisions related to the constituent assembly shall be applied on the procedures of invitation to the Assembly, the attendance quorum and the voting.
Lebanon	0	Lebanon on the Land Commerce, Decision No. (304) of 1942	Article 164 The members of the board of directors are responsible to convene the general assemblies. Article 176 The Commissioners should convene the general assembly each time the board of directors fails to do so in the cases specified in the law or in the company's memorandum. The Commissioners also have the right to convene the general assembly when necessary and if requested by a group of shareholders representing one-fifth of the capital of the company.
		The Lebanese Code of Corporate Governance (2006)	B. The rights of shareholders with regard to shareholders' meetings 1. The right to call shareholders' meetings 1.3 Shareholders representing 10% of the company's share capital may request the Board to call the assembly to resolve upon the issues proposed by the said shareholders. 1.5 Any shareholder evidencing a legitimate interest may file an application with the court requesting the appointment of a court representative to call the general assembly to resolve upon the issues proposed by the applicant shareholder.
		Lebanon Corporate Governance Guidelines for Listed Companies (2010)	Article 5 Shareholders' rights with regards to shareholders' meetings b) The shareholders' assembly convenes upon notice of the board. Subject to applicable laws and regulations, the auditor or shareholders representing 5% of the company's share capital may request from the board to convene a shareholders' assembly, on a specified issue proposed by the auditor or by the said shareholders.
Morocco	1	Companies Law No. (17) of 1995	Article 116 The general meeting is convened by the board of directors or the supervisory board, otherwise it may also be called in case of emergency by: 1) the auditors or 2) a representative appointed by the president of the court ruling at the request of either any interested party in an emergency, or one or

Appendix 1 Shareholder protection in MENA countries

6. Capital to call a meeting			
Country	Code	Law/ Regulation	Legal provision
			more shareholders representing at least one tenth of the share capital, 3) the liquidators. and 4) the majority of the capital or voting rights of shareholders following a public purchase offer or exchange or after a sale of a block of shares changing control of the company...
Oman	0	Commercial Companies Law No. (4) of 1974	Article 116 The board of directors may convene the general meeting at any time and such meeting shall be convened whenever required by the Law or the company's articles of association, or upon request of one or more shareholders who represent at least 25% of the capital of the company. If the board of directors fails to convene the general meeting's meeting, then the auditors shall do so ...
Palestine	0 for WB and 1 for Gaza	Company Law No.(12) of 1964	Article 149 The ordinary general assembly meetings Ordinary general assembly shall meet at least once a year, at the invitation of the board of directors on the date specified on the company's memorandum that does not exceed four months following the end of the company's financial year and may also call at the conditions stipulated in this law.
		Company Law of 1929	Article 61 Annual general meeting (1) Each company holds a general meeting at least once in every calendar year and not later than fifteen months from the date of the previous general meeting. If the meeting is not held accordingly, the company or each member of the board of directors or the chief director who was informed and participate in this violation are fined fifty pounds. (2) If the company does not hold the meeting according to the provisions of this article, the court, at the request of any member of the company, may ask the company to convene the general meeting or to order the meeting to convene. Article 64 (1) Companies apply the following provisions wherever the company's memorandum does not include provisions similar nature. ... (C) Two or more members holding not less than ten percent of the issued capital may call for a general assembly meeting and if the company has no capital shares the general assembly meeting may convene at the request of a number of members not less than five per cent of the total number of members of the company.
		Corporate Governance code 2009	1. Public assembly meeting 11. The invitation to the ordinary or extraordinary public assembly meeting can be sent by the board of directors or upon the request of the auditor or by the company controller or the shareholders who hold at least one quarter of the company's shares. Shareholders who hold 15% of the company's shares have the right to ask the company controller or the external auditor to request the board of directors for an extraordinary meeting of the public assembly.
Qatar	1	Qatar Commercial Companies Act No. (5)	Article 124 The board of directors should invite the general assembly to hold whenever the auditor demands. If the board fails to address the invitation within fifteen days from the date of request the auditor is entitled to address the invitation directly after the approval of the Ministry. The board should

Appendix 1 Shareholder protection in MENA countries

6. Capital to call a meeting			
Country	Code	Law/ Regulation	Legal provision
		of 2002	<p>also address the invitation for meeting when it is requested by one or more shareholders who own minimum 10% of the capital for serious reasons, within fifteen days from the date of request, otherwise, the Ministry based on the request of these shareholders will address the invitation on behalf of the company. The agenda in this case will be limited to the subject of the request.</p> <p>Article 139 The extraordinary meeting will be held only by an invitation from the board of directors. The board should direct this invitation if a number of shareholders representing minimum 25% of the capital demand the same. If the board fails to hold the meeting within fifteen days from the date of submitting this demand, shareholders can request from the Ministry to address the invitation at the expense of the company.</p>
Saudi Arabia	1	Companies Regulations, Royal Decree M/6 of 1385 Hijri	Article 87 Stockholders' general or special meetings shall be convened at the summons of the board of directors in the manner prescribed in the bylaws of the company. The board of directors must call for a regular general meeting, if so requested by the auditor or by a number of stockholders representing at least 5% of the capital. The General Department of Companies may, at the request of a number of stockholders representing at least 2% of the capital or pursuant to a decision by the Minister of Commerce, call for a general meeting if such a meeting is not called within one month from the date set therefore.
		Corporate Governance Resolution No. 1/212/2006 dated 21/10/1427A H	Article 5: b) The general assembly shall convene upon a request of the board of directors. The board of directors shall invite a General Assembly to convene pursuant to a request of the auditor or a number of shareholders whose shareholdings represent at least 5% of the equity share capital.
Sudan	1	Sudan Companies Act of 1925	<p>69 (2) If the annual general meeting is not held according to the provisions stipulated in this section, the court can, at the request of any member of the company, call or order the annual general meeting to convene.</p> <p>71 (1) Notwithstanding any provision in the company's memorandum, the board of directors shall proceed immediately to convene an extraordinary general meeting as soon as requested by a number of shareholders holding not less than one-tenth of the issued share capital of the company and who paid the value of all the premiums and all other amounts.</p> <p>First Schedule, Table A, Rules for managing joint stock companies 46. A general meeting must be held once a year at the time and place determined by the company and the meeting should convene not later than fifteen months from the last general meeting. If the company did not specify the time and the venue the meeting is held in the month following the month in which the company was found and in the place designated by the board of directors, if the general meeting is not held as specified above then the meeting must be held in the month following that month and any two</p>

Appendix 1 Shareholder protection in MENA countries

6. Capital to call a meeting			
Country	Code	Law/ Regulation	Legal provision
			<p>members of the company may invite the meeting to convene following as closely as possible the same procedure in which the board of directors call for general meetings.</p> <p>48. The board of directors may convene an extraordinary general meeting as it deems appropriate and may also convene extraordinary general meetings at the request submitted under the provisions of Article 71 of this law, if the meeting is not held the parties referred to in that article can call the meeting to convene. If the number of the board members present in Sudan is insufficient to form a quorum, any board member or any two members of the company may invite the extraordinary general meeting to convene following as closely as possible the same procedure in which the board of directors call for general meetings.</p>
Tunisia	1	Tunisia Companies Law, No. (93) of 2000	<p>Article 277 The general meeting is convened by the board or by the executive board. If necessary, it can be called by:</p> <p>1) The statutory auditors.</p> <p>2) An attorney appointed by the court on application by any interested person in an emergency or at the request of one or more shareholders holding at least five per cent stake in the company stock when it is not a public company or three percent when it is a public company...</p>
Turkey	1	Turkish Commercial Law No. (6102) of 2011	<p>Article 411</p> <p>(1) The shareholders representing at least one tenth and one twentieth of the capital in the companies open to public, shall be entitled to request from the board of directors to call the general assembly for a meeting by giving reasons and to determine the agenda of the meeting; if the general assembly is to be convened in any case, the board shall be asked to specify the subjects of resolution. The shareholders holding less number of shares shall be entitled to call for a meeting if provided by the articles of association.</p> <p>(4) If the call is accepted by the board of directors, the general assembly shall be called for a meeting to be held latest within forty-five days; otherwise, the call shall be made by the shareholders willing to convene the meeting.</p> <p>Consent of the court</p> <p>Article 412 (1) If the request of the shareholders related to call and agenda is rejected by the board of directors, or no response is given to the request within seven business days, then the decision for call shall be rendered by the commercial court of first instance at the place where the company's head office is domiciled, upon application of the same shareholders. If the court approves convening of a meeting, then an administrator shall be appointed to prepare the agenda and to make the call according to the provisions of the Law. In the same decision, the court shall define the functions and powers of the administrator related to preparation of necessary documents for the meeting. As long as there is no obligation, the court shall pass decision upon review of the file. The decision of the court shall be final.</p>
UAE	0	Commercial Companies law No. (8)	Article 121 If at least ten shareholders representing at least 30% of the capital should for serious reasons request the general meeting to convene, the board shall act accordingly and shall, within fifteen days from the date of such

Appendix 1 Shareholder protection in MENA countries

6. Capital to call a meeting			
Country	Code	Law/ Regulation	Legal provision
		of 1984	<p>request, send invitations for that purpose. In case the board fails to do so, the Ministry, after consultations with the concerned authority, may, within fifteen days of the date of the application send such invitations at the request of the said shareholders or at the request of a lesser number of shareholders representing at least 30% of the share capital.</p> <p>Article 139 The extraordinary general meeting shall convene only at the invitation of the board of directors. The board shall extend such invitation, if so requested by a number of shareholders representing at least 40% of the company's capital. In the event of the board's failure to do so within fifteen days as of this request, the applicants may request the Ministry to send the same invitation. The Ministry, after consultation with the concerned authority, shall send the invitations. Both the Ministry and the concerned authority may delegate one or more representatives to attend the meeting with no right to vote, and their presence shall be recorded in the minutes of the meeting.</p>

Appendix 2 Constitutional role of Sharia

MENA's legal systems are recognised as hybrid legal systems where the Western transplanted laws operate alongside Sharia. One way to analyse the extent to which Sharia applies to the laws of MENA is to classify countries according to the Sharia's role in the constitution. Hence, the constitutional role of Sharia is used as a proxy for the existence of hybrid legal systems in the MENA. (Foster, 2010, p. 7) argues that Islamic law is different from the state law of Muslim jurisdictions; some jurisdictions have a provision in their constitution that Islamic law is 'a' or 'the' principal source of law and other Jurisdictions enact statutes based on Islamic law. In either case, Islamic law is not the statute law where the ultimate authority is not to God but to state.

Reviewing the provisions of the MENA countries' constitution suggests five groups to Sharia being a constitutional source; 1) Sharia plays no role in the constitution; 2) Sharia is the religion of the state and the people and or the nation are the source of all power; 3) Sharia represents a legislative source in the constitution; 4) Sharia is the principal source of legislation; and 5) Sharia is an overall constitutional source (Al-Rimawi, 2012) (Elsaman, 2011, p. 10). The groups are ranked from low role of Sharia for group 1 to high role of Sharia for group 5.

The first group includes countries where Sharia plays no constitutional role at all. This is common in countries that attempt to secularise the society such as Israel, Lebanon and Turkey. Israel is formally recognised as a secular country despite the absence of a written constitutional declaration. The Knesset (the Israeli house of representatives) states:

"Israel does not have a written constitution,The delay in the preparation of a constitution resulted primarily from problems that emerged against the background of the alleged clash between a secular constitution and the Halacha (the Jewish religious law)" (State of Israel, 2005).

Lebanon's constitution does not mention Sharia or Islam at all. It has distanced itself from nominating Sharia as the religion of the state; and emphasises that authority and sovereignty rest with the people. Lebanon's constitution as amended in 1996 states: "[t]he people are the source of authority and sovereignty" (Constitution of Lebanon, 1926). Moreover, Article 9 addresses the absolute freedom of conscience as opposed to referring to a particular religion; it states:

"[T]here shall be absolute freedom of conscience. The state in rendering homage to the Most High shall respect all religions and creeds and guarantees, under its protection, the free exercise of all religious rites provided that public order is not disturbed" (Constitution of Lebanon, 1926).

Turkey, since its establishment in 1923, represents a unique example of a secular country that is predominantly comprised of a Muslim population. Article 2 of Turkey's 1982 constitution states

“[t]he Republic of Turkey is a democratic, secular and social State governed by the rule of law” (Constitution of the Republic of Turkey, 1982).

The second group includes countries where Sharia plays a limited constitutional role as the identity of the state. (Al-Rimawi, 2012, p. 107) calls these countries semi-secular. This group includes Algeria, Jordan, Libya, Morocco, and Tunisia. Article 2 of Algeria’s constitution of 1989 states: “Islam is the religion of the State” (Constitution of the People’s Democratic Republic of Algeria, 1989). There is no indication of any legislative role of Sharia in the rest of the constitution. Similarly, Jordan’s constitution of 1952 states: “Islam is the religion of the State”. Moreover, Article 24 states: “[t]he Nation is the source of all powers” (Constitution of the Hashemite Kingdom of Jordan, 1952). (Al-Rimawi, 2012, p. 108) describes the Jordanian constitution as “a political rope between secularism and Islamism”. Under Gaddafi regime in Libya, Sharia has non-legislative role in the constitution. Article 2 of Libya’s 1969 constitution states: “Islam is the religion of the State” (Libya: Constitution Proclamation, 1969). However, following the 2011 revolution, a new constitution has been drafted which reinstated the role of Islam in the constitution. Article 1 states: “Islam is the religion of the State and the principal source of legislation is Islamic Jurisprudence (Shariah)”. Hence, pre-revolution, Libya belonged to the second group, where Islam acts as the identity of the state. However, post-revolution Libya belongs to the fourth group, where Sharia is the main source of legislation. Article 6 of Morocco’s constitution states: “Islam shall be the state religion. The state shall guarantee freedom of worship for all” Yet Article 4 provides: “[t]he law shall be the supreme expression of the will of the Nation. All shall abide by it. The law shall have no retroactive effect” (Constitution of the Kingdom of Morocco, 1996). Similarly, Article 1 of Tunisia’s Constitution states: “Tunisia is a free, independent and sovereign state. Its religion is Islam, its language is Arabic and its type of government is the Republic”. Article 3 of Tunisia Constitution emphasises that the power belongs to the people “[s]overeignty belongs to the Tunisian people, who exercise it in accordance with the Constitution” (Constitution of Tunisia, 1959). These provisions indicate that Sharia has no role in the constitution other than being the religion of the state.

The third group includes those countries which designate Sharia as ‘a’ main source of legislation. Seven countries that regard Islam a source among other sources of legislation include: Bahrain; Iraq; Kuwait; Palestine; Qatar; Syria; and, UAE. Article 2 of Bahrain’s 2002 constitution states: “[t]he religion of the State is Islam. The Islamic Sharia is a principal source for legislation” (Constitution of the Kingdom of Bahrain, 2002). Since the removal of the old regime, Iraq joined this group where Article 2 of the Iraq 2005 constitution states: “Islam is the official religion of the State and is a foundation source of legislation: A. No law may be enacted that contradicts the

established provisions of Islam”. Further, Article 92 states: “[t]he Federal Supreme Court shall be made up of a number of judges, experts in Islamic jurisprudence” (Constitution of the Republic of Iraq, 2005). Article 2 of Kuwait’s constitution of 1962 indicates that “[t]he religion of the State is Islam, and the Islamic Sharia shall be a main source of legislation” (Constitution of Kuwait, 1962). The contradiction is again evident in the civil code of Kuwait where Article 547 states that: “[L]oans shall be without interest. Any condition to the contrary shall be void without prejudice to the loan agreement” (1980). Yet the Commercial Code of Kuwait which is considered a ‘special law’ stipulates that: “[t]he creditor shall be entitled to an interest in a commercial loan unless otherwise is agreed upon” (1980, p. Article 102). (Ballantyne, 1985, p. 5) note that the Kuwaiti Commercial Code preserves commercial transactions to a large extent from incursions of the Sharia. There have been several attempts by the Islamic movement to emphasise the role of Sharia in Kuwait’s constitution but it has failed. Further, there have also been attempts to challenge Articles (110) and (113) of Kuwait’s Commercial Act on grounds that these articles permit interest and are contradictory to Article (2) of the Kuwaiti Constitution. These claims were rejected by Kuwait Constitutional Court Decision of 28 November 1992 (Al-Rimawi, 2012, p. 112). The court held that Articles 110 and 113 of the Kuwaiti Commercial Code are constitutionally valid. The rationale of the decision is that Article 2 of the Constitution guides the legislator to resort to Sharia as a source among other sources for legislation. The decision also recognises that the legislators have the capacity to extract principles of law from other sources. Prior to 1996, Article 1 of the Kuwaiti Civil Code stated:

“[I]f there is no legislative provision, the judge gives judgment in accordance with Custom. If there is no Custom, the judge deduces his opinion taking guidance from the dictates of the Islamic jurisprudence most in accord with the reality and interests of the country” (Civil Code of Kuwait, 1980)

In 1996, the Islamic Jurisprudence became the second source of judgement while custom is recognised last. Palestine’s legal system is complicated because several authorities have ruled over the country. Accordingly, multiple legal systems have affected the political and legal structures in Palestine. The contemporary Basic law of Palestine (2003) emphasises that Sharia is a principle source of legislation. Similarly, Article 1 of Qatar’s constitution of 2004 states: “Qatar is an independent sovereign Arab State. Its religion is Islam and Shari’a law shall be a main source of its legislations” (Constitution of Qatar, 2004). Despite the socialist orientation of the country, Article 3(2) of Syria’s 1973 constitution states: “Islamic jurisprudence is a main source of legislation” (Constitution of the Syrian Arab Republic, 1973). Finally, the Constitution of the UAE of 1971 Article 7 states: “Islam is the official religion of the Union. The Islamic Shariah shall be a main source of legislation in the Union” (Constitution of the United Arab

Emirates, 1971). The same contradiction as in Kuwait exists in UAE civil and commercial codes. This is evident in the precedents established by UAE courts in respect of calculation and application of interest. The Federal Supreme Court of UAE in its interpretation Decision No. 14/9 issued in 1981 held that Articles 61 and 62 of Abu Dhabi Code of Civil Procedures of 1970 permitting interest are constitutional. In another contradictory ruling, the Court of First Instance and the Court of Appeal held that the interest charged by the bank is invalid since it contradicts Sharia and against the constitution. The bank appealed to the Federal Court against the decision of the lower court. The Federal Supreme Court held that Sharia prohibited interest, but at the same time made exceptions to the prohibition by the application of the Sharia principle of “[n]ecessity permits what would be otherwise forbidden” (Tamimi, 2002, p. 50) (Majid and Majid, 2003, p. 192) (Mahmoud, 2005). (Ballantyne, 1985, p. 12) argues that it is very hard to identify the exact role of Sharia. Ballantyne provides an example where the Constitution of UAE recognises the Sharia as a principal source of law. However, he also acknowledges the Law setting up the Supreme Court provides priority to Sharia as the principal source. Article 75 of the Federal Supreme Court regulations in UAE states:

“[t]he Supreme Court shall apply the provisions of the Islamic Sharia, the federal laws, and the other laws in force in the Emirates, that are members of the federation, and which are consistent with the provisions of the Islamic Sharia”.

The fourth group includes those countries where Sharia is ‘the’ main source of legislation. (Majid and Majid, 2003) suggest that if the constitution describes Sharia as ‘the’ principal source of legislation, the hierarchy implies that all other laws and statutes must comply with the principles of Sharia. Four countries, Egypt, Oman, Sudan, and Yemen give strong commitment to Sharia constitutionally. The Egyptian Constitution of 1971 was less committed to Sharia. However, as a result of Islamist group pressure, Article 2 of the constitution was amended in 1980 to exalt Sharia as the main of constitution rather than a source of legislation (Carballo, 2007, p. 101). Article 2 of the Egyptian Constitution of 1980 states “Islam is the Religion of the State. Arabic is its official language, and the principal source of legislation is Islamic Jurisprudence (Sharia)” (Constitution of the Arab Republic of Egypt, 1971). This change in the constitution had commercial impact where the Islamist group demanded to annul unconstitutional provision of Article 226 of the Egyptian Civil Code of 1948 that permit interest. In a landmark decision, the Supreme Court held that the change in Article 2 of the Constitution had no retroactive effect, and hence did not affect existing legislation. However, the Supreme Court claimed that Article 2 imposed an obligation on the legislative to bring all future laws in conformity with the Sharia

("Shari'a and Riba: Decision in Case no. 20 of Judicial Year no. 1," 1985).⁸⁴ Despite the fact that the logic behind the decision of the Egyptian court is different from the Kuwaiti case, both have concluded that interest is legitimate. The Supreme Court's decision was highly criticised. Saad (1986) cited in (Majid and Majid, 2003) argues that the decision is poor, not convincing, and the prohibition of interest should be applied (at least) from the date of the enactment in 1980. (Ballantyne, 1985, p. 5) criticised the Supreme Court's decision pointing out that if the basic law is changed, then it is assumed that the amendment was intended to produce some effect. Unlike Egypt, Pakistani's Supreme Court decision in December 1999 ruled that interest-based banking is contrary to Islamic law. Consequently, provisions related to interest in twenty-two Pakistani statutes were void (Stovall, 2000, p. 841). Similarly, Oman adopted a strong role of Sharia in its constitution. Article 2 of Oman's Basic Law of 1996 states: "[t]he religion of the State is Islam and the Islamic Shariah is the basis of legislation" (Basic Law of the Sultanate of Oman, 1996). Likewise, Sudan has shown strong commitment to Sharia under its 1988 constitution, where. Article 65 Source of Legislation states:

"[T]he Islamic Sharia and the national consent through voting, the Constitution and custom are the source of law and no law shall be enacted contrary to these sources, or without taking into account the nation's public opinion, the efforts of the nation's scientists, intellectuals and leaders" (Constitution of the Democratic Republic of the Sudan, 1988).

However, after the division of Sudan in 2003, the interim constitution of 2005 indicates that Sharia was limited to Northern Sudan. Furthermore, Article 201 (2) of the Interim National Constitution of Sudan of 2005 states: "[a] dual banking system shall be established, and shall consist of an Islamic banking system that shall operate in Northern Sudan and a conventional banking system to operate in southern Sudan" (Interim National Constitution of the Republic of the Sudan, 2005). It is worth noting that Sudan's Banking Sector Regulation of 2003 and the Securities Law of 1994 define 'finance' and 'financial securities' in terms of Islamic concepts. Yemen directly references Islam constitutionally. Article 2 of the Yemen Constitution of 2001 states: "Islam is the religion of the country and Arabic is its official language." Article 3 regards Islamic law as the main source of legislation and further Article 7 considers that "[t]he national economy is based on freedom in economic activities and in accordance with the Islamic social justice" (Constitution of the Yemen Republic, 2001).

⁸⁴ Constitutional Court of Egypt-Decision of 4 May 1985. The case was Rector of Al Azhar vs. President of the Republic and others. In 1985 the rector of Al Azhar (a high profile Islamic institution) brought a case against the president, the Egyptian parliament and others. Al Azhar contended that the provisions of the Civil Code granting interest such as Article 226 of the Egyptian Civil Code became unconstitutional in view of the amended Article 2 of the Constitution, which adopted Sharia as 'the' main source of legislation.

The fifth group includes Iran and Saudi Arabia where Islamic law itself is the constitution of the country. The strong commitment to Sharia is evident in Article 2 of Constitution of the Islamic Republic of Iran of 1979:

“[T]he Islamic Republic is a system based on the belief in: 1. the One God (as stated in the phrase "There is no god except Allah"), His exclusive sovereignty and the right to legislate, and the necessity of submission to His commands; 2. Divine revelation and its fundamental role in setting forth the laws; 3. The return to God in the Hereafter, and the constructive role of this belief in the course of man's ascent towards God; 4. The justice of God in creation and legislation”.

Further, Article 4 states

“[A]ll civil, penal financial, economic, administrative, cultural, military, political, and other laws and regulations must be based on Islamic criteria. This principle applies absolutely and generally to all articles of the Constitution as well as to all other laws and regulations, and the fuqaha' of the Guardian Council are judges in this matter” (Constitution of the Islamic Republic of Iran, 1979).

Saudi Arabia also belongs to the fifth group where Islamic law is the law of the land and it is supplemented by several government-enacted regulations. Article 1 of the Basic Law of Saudi Arabia of 1993 states:

“[T]he Kingdom of Saudi Arabia is a sovereign Arab Islamic State. Its religion is Islam and its constitution is Almighty God's Book, The Holy Qur'an, and the Sunna (Traditions) of the Prophet” (Basic Law of Saudi Arabia, 1993 (1412 H)).

Moreover, Article 23 of the Basic Law of Saudi Arabia of 1993 states “[t]he State shall protect the Islamic Creed and shall cater to the application of Shariah. The State ... shall undertake the duties of the call to Islam”. There is parallel body of secular regulations in Saudi Arabia which would be considered void if it contradicts with the provisions of Sharia (Ballantyne, 1985, p. 4). This commitment can be contrasted with a lower level of commitment to Sharia as a legislative source by the rest of the MENA countries.

Appendix 3 List of variables used in the ‘Law and Finance’ literature

Panel A: Financial market development variables		
Variable	Definition	Used in
Private credit to GNP	The sum of bank debt of the private sector and outstanding non-financial bonds to GNP in a given year.	La Porta et al. (1997); Levine et al (2000); Beck et al. (2001); Beck and Levine (2002); Stulz and Williamson (2003); Beck et al., 2003; and, Djankov et al. (2007).
Liquid liabilities	Liquid liabilities of the financial system (currency plus demand and interest-bearing liabilities of banks and non-bank financial intermediaries) to GDP in a given year.	Levine et al (2000); Beck et al. (2001); Beck et al. (2003b); and, Rajan and Zingales (2003).
Market capitalisation to GDP	Average of the ratio of stock market capitalisation to GDP (or GNP) for sample period.	La Porta et al. (1997); Beck et al. (2001); Rajan and Zingales (2003); Beck et al. (2003b); Stulz and Williamson (2003); La Porta et al. (2006); Djankov, La Porta, et al. (2008); and, Spamann (2010).
Number of firms to population	The number of listed domestic firms to population in a given year. Or, logarithm of the average ratio of the number of domestic listed firms to population for sample period.	La Porta et al. (1997); Rajan and Zingales (2003); La Porta et al. (2006); Djankov, La Porta, et al. (2008); and, Spamann (2010).
IPOs to population	The number of initial public offerings of equity to population for sample period.	La Porta et al. (1997) and Spamann (2010).
IPOs to GDP	Average of the ratio of the equity issued by newly-listed firms divided by GDP over sample period.	La Porta et al. (2006) and Djankov, La Porta, et al. (2008).
Equity issues to GDP	The ratio of funds raised by domestic firms through public equity offerings to GDP (both initial public offerings and seasoned equity issues) in a given year.	Beck et al. (2000); Stulz and Williamson (2003); and, Rajan and Zingales (2003).

Appendix 3 List of variables used in the ‘Law and Finance’ literature

Panel A: Financial market development variables		
Variable	Definition	Used in
Value traded to GDP	Average of the total value of stocks traded to GDP for sample period.	Beck and Levine (2002); Beck et al. (2003b); and, La Porta et al. (2006).
Turnover ratio	Total value of shares traded on the stock market exchange to total market capitalisation.	Beck et al. (2001).
Ownership concentration	Average percentage of common shares owned by the top three shareholders in the top ten non-financial, privately-owned domestic firms. A firm is considered privately-owned when the state is not a known shareholder.	Beck (2001); La Porta et al (2006); Djankov, La Porta, et al. (2008); and, Spamann (2010).
Panel B: Creditor protection variables		
Variable	Definition	Used in
Creditor rights	An index aggregating different creditor rights. The index is formed by adding 1 when: a) the country imposes restrictions, such as creditors’ consent or minimum dividends to file for reorganisation; b) secured creditors are able to gain possession of their security once the reorganisation petition has been approved (no automatic stay); c) secured creditors are ranked first in the distribution of the proceeds that result from the disposition of the assets of a bankrupt firm; d) and the debtor does not retain the administration of its property pending. The index value ranges from 0-4.	La Porta et al. (1997); La Porta et al. (1998); Beck et al. (2001); Levine et al. (2000); Stulz and Williamson (2003); Lich et al. (2005); Djankov et al. (2007); and, Spamann (2010).
Restrictions for going into reorganisation	Equals 1 if the reorganisation procedure imposes restrictions, such as creditors’ consent to file for reorganisation; and equals 0 if there are no such restrictions.	La Porta et al. (1997); and La Porta et al. (1998); Stulz and Williamson (2003); and, Djankov et al. (2007).
No automatic stay on secured asset	Automatic stay prevents secured creditors from gaining possession of their security. Equals 1 if the reorganisation procedure does not impose an automatic stay on the assets of the firm on filing the reorganisation petition; and equals 0 if such a restriction does exist in the law.	La Porta et al. (1997); La Porta et al. (1998); Stulz and Williamson (2003); Levine et al. (2000); and, Djankov et al. (2007).
Secured creditors first	Equals 1 if secured creditors are ranked first in the distribution of the proceeds that result from the disposition of the assets of a bankrupt firm; and equals 0 if non-secured creditors, such as the government and workers, are given absolute priority.	La Porta et al. (1997); La Porta et al. (1998); Stulz and Williamson (2003); Levine et al. (2000); and, Djankov et al. (2007).

Appendix 3 List of variables used in the ‘Law and Finance’ literature

Panel A: Financial market development variables		
Variable	Definition	Used in
Management does not stay	Equals 1 when an official appointed by the court, or by the creditors, is responsible for the operation of the business during reorganisation; equivalently, this variable equals 1 if the debtor does not keep the administration of its property pending the resolution of the reorganisation process; and equals 0 otherwise.	La Porta et al. (1997); La Porta et al. (1998); Stulz and Williamson (2003); Levine et al. (2000); and, Djankov et al. (2007).
Public registry	A public registry is defined as a database owned by public authorities (usually the central bank or banking supervisory authority) that collects information on the standing of borrowers in the financial system and makes it available to financial institutions. Equals 1 if a public credit registry operates in the country; and equals 0 otherwise.	Djankov et al. (2007).
Private bureau	A private bureau is defined as a private commercial firm or non-profit organisation that maintains a database on the standing of borrowers in the financial system, and its primary role is to facilitate exchange of information amongst banks and financial institutions. Private credit reporting firms, which collect information from public sources but not banks and financial institutions, operate in several other countries but are not considered here. Equals 1 if a private credit bureau operates in the country; and 0 otherwise.	Djankov et al. (2007).
Information sharing	Equals 1 if either a public registry or a private bureau operates in the country; and 0 otherwise.	Djankov et al. (2007).
Contract enforcement days	The number of calendar days to enforce a contract of unpaid debt worth 50% of the country’s GDP per capita through courts.	Djankov et al. (2007).
Legal reserve	The minimum percentage of total share capital mandated by corporate law to avoid the dissolution of an existing firm. Equals 1 for countries with such a restriction; and equals 0 for countries without.	La Porta et al. (1998); Stulz and Williamson (2003); and, Spamann (2010).

Appendix 3 List of variables used in the ‘Law and Finance’ literature

Panel C: Shareholder protection variables		
Variable	Definition	Used in
Anti-director rights index	Index aggregating the shareholder rights. Formed by adding 1 when: a) the country allows shareholders to mail their proxy vote to the firm; b) shareholders are not required to deposit their shares prior to the general shareholders’ meeting; c) cumulative voting or proportional representation of minorities in the board of directors is allowed; d) an oppressed minorities mechanism is in place; e) the minimum percentage of share capital that entitles a shareholder to call for an extraordinary shareholders’ meeting is less than or equal to 10%; or f) shareholders have pre-emptive rights that can be waived only by a shareholders’ vote. The index ranges from 0 to 6.	La Porta et al. (1997); La Porta et al. (1998); Beck et al. (2001); La Porta et al. (2002); Lich et al. (2005); La Porta et al. (2006); Stulz and Williamson (2003); and, Spamann (2010).
Adjusted Anti-director rights index	Aggregate index of shareholder rights. Formed by summing: a) vote by mail; b) shares not deposited; c) cumulative voting; d) oppressed minority; e) pre-emptive rights; and f) capital to call a meeting.	Djankov, La Porta, et al. (2008) and Spamann (2010).
Proxy by mail allowed	Equals 1 if the company law or commercial code allows shareholders to mail their proxy vote to the firm; equals 0 otherwise.	La Porta et al. (1997); La Porta et al. (1998); and, Stulz and Williamson (2003).
Vote by mail	Equals 1 if the law explicitly mandates or sets as a default rule that: a) proxy solicitations paid by the firm include a proxy form allowing shareholders to vote on agenda items; or b) a proxy form to vote on the agenda items accompanies the meeting notice; or c) shareholders vote by mail on the agenda items (i.e., postal ballot); and equals 0 otherwise.	Djankov, La Porta, et al. (2008)
Shares not deposited	Equals 1 if the company law or commercial code does not allow firms to require that shareholders deposit with the firm itself or another firm any of their shares prior to a general shareholders meeting, thus preventing them from selling those shares for a number of days, and equals 0 otherwise.	La Porta et al. (1997); La Porta et al. (1998); Stulz and Williamson (2003); and, Djankov, La Porta, et al. (2008).
Cumulative voting or proportional representation	Equals 1 if the company law allows shareholders to cast all their votes for one candidate standing for election to the board of directors (cumulative voting) or if the company law or commercial code allows a mechanism of proportional board representation by which minority interests may name a proportional number of directors to the board; and equals 0 otherwise.	La Porta et al. (1997); La Porta et al. (1998); and, Stulz and Williamson (2003).
Cumulative voting	Equals 1 if the law explicitly mandates or sets as a default rule that shareholders owning 10% or less of the capital can cast all their votes for one board of directors or supervisory board candidate (cumulative voting) or if the law explicitly mandates or sets as a default rule a mechanism of proportional representation in the board of directors or supervisory board by which shareholders owning 10% or less of the issued capital can name a proportional number of directors to the board; and equals 0 otherwise.	Djankov, La Porta, et al. (2008)

Appendix 3 List of variables used in the ‘Law and Finance’ literature

Panel C: Shareholder protection variables		
Variable	Definition	Used in
Oppressed minorities mechanism	The proxy ‘minority shareholders’ is defined as shareholders who own 10% or less of share capital. Equals 1 if the company law grants minority shareholders either a judicial venue to challenge the decisions of management or of the assembly or the right to step out of the firm by requiring the firm to purchase their shares when they object to certain fundamental changes, such as mergers, asset dispositions, and changes in the articles of incorporation; and equals 0 otherwise.	La Porta et al. (1997); La Porta et al. (1998); and, Stulz and Williamson (2003).
Oppressed minority	Index of the difficulty faced by minority shareholders in challenging (i.e., by either seeking damages or having the transaction rescinded) resolutions that benefit controlling shareholders and damage the firm. Equals 1 if minority shareholders can challenge a resolution of both the shareholders and the board if it is unfair, prejudicial, oppressive, or abusive; equals 0.5 if shareholders are able to challenge either a resolution of the shareholders or of the board if it is unfair, prejudicial, or oppressive; and equals 0 otherwise.	Djankov, La Porta, et al. (2008)
Pre-emptive rights	Equals 1 when the company law or commercial code grants shareholders the first opportunity to buy new issues of shares, and this right can be waived only by a shareholders’ vote; and equals 0 otherwise.	La Porta et al. (1997); La Porta et al. (1998); Stulz and Williamson (2003); and, Djankov, La Porta, et al. (2008).
Percentage of share capital to call an extraordinary shareholders’ meeting	The minimum percentage of ownership of share capital that entitles a shareholder to call for an extraordinary shareholders’ meeting.	La Porta et al. (1997); La Porta et al. (1998); and, Stulz and Williamson (2003).
Capital to call a meeting	The minimum percentage of share capital or voting power that the law mandates or sets as a default rule that entitles a single shareholder to call a shareholders’ meeting (directly or through the court). Equals 1 when capital to call a meeting is less than or equal to 10%; and equals 0 otherwise.	Djankov, La Porta, et al. (2008).
One share—one vote	Equals 1 if company law requires that ordinary shares carry one vote per share, equals 0 otherwise. Equivalently, this variable equals 1 when the law prohibits the existence of both multiple-voting and non-voting ordinary shares and does not allow firms to set a maximum number of votes per shareholder irrespective of the number of shares owned; and equals 0 otherwise.	La Porta et al. (1997); La Porta et al. (1998); Stulz and Williamson (2003); and, Spamann (2010).
Mandatory dividend	Equals the percentage of net income that the company law or commercial code requires firms to distribute as dividends among ordinary stockholders. Equals 0 for countries without a restriction.	La Porta et al. (1997); La Porta et al. (1998); Stulz and Williamson (2003); and, Spamann (2010).

Appendix 3 List of variables used in the ‘Law and Finance’ literature

Panel C: Shareholder protection variables		
Variable	Definition	Used in
Anti-self-dealing index	Attorney based survey. Average of ex ante and ex post private control of self-dealing.	Djankov, La Porta, et al. (2008).
Ex ante private control of self-dealing	Index of ex ante control of self-dealing transactions. Average of approval by disinterested shareholders and ex-ante disclosure.	
Approval by disinterested shareholders	Equals 1 if the transaction must be approved by disinterested shareholders; and equals 0 otherwise.	
Ex ante disclosure	Average of the disclosures by Buyer, disclosures by Mr. James and independent review.	
Disclosures by Buyer	Index of disclosures that Buyer must make before the transaction can be approved. Ranges from 0 to 1. Equals 0.33 for each of the following disclosures: (1) Mr. James owns 60% of Buyer; (2) Mr. James owns 90% of Seller; and (3) all material facts or the following three items: (a) description of the assets, (b) nature and amount of consideration, and (c) explanation of the price.	
Disclosures by Mr. James	Index of disclosures that Mr. James must make before the transaction can be approved. Ranges from 0 to 1. Equals 1 if all material facts must be disclosed; equals 0.5 if only the existence of a conflict of interest must be disclosed, without details; and equals 0 if no disclosure is required	
Independent review	Equals 1 if a positive review is required (e.g., by a financial expert or independent auditor) before the transaction can be approved; and equals 0 otherwise.	
Ex post private control of self-dealing	Index of ex post control over self-dealing transactions. Average of disclosure in periodic filings and ease of proving wrongdoing. Ranges from zero to one.	
Disclosure in periodic filings	Index of disclosures required in periodic disclosures (e.g., annual reports). Ranges from 0 to 1. Equals 0.20 for each of the following disclosures: (1) Mr. James owns 60% of stake in Buyer; (2) Mr. James owns 90% of Seller; (3) shares held beneficially by Mr. James (i.e., shares held and/or managed via a nominee account, trust, brokerage firm or bank); (4) shares held indirectly by Mr. James (e.g., via a subsidiary company or holding); and (5) all material facts about the transaction or the following three items: (a) description of the assets; (b) nature and amount of consideration; and (c) explanation for the price.	
Ease in proving wrongdoing	Average of standing to sue, rescission, ease of holding Mr. James civilly liable, ease of holding the approving body civilly liable, and Access to evidence.	

Appendix 3 List of variables used in the ‘Law and Finance’ literature

Panel C: Shareholder protection variables		
Variable	Definition	Used in
Standing to sue	Equals 1 if a 10% shareholder can sue derivatively either Mr. James or the approving bodies or both for damages that the firm suffered as a result of the transaction; and equals 0 otherwise.	
Rescission	Index of the ease in rescinding the transaction. Ranges from 0 to 1. Equals 1 when rescission is available when the transaction is unfair or entails a conflict of interest; equals 0.5 when rescission is available when the transaction is oppressive or prejudicial; and equals 0 when rescission is unavailable or only available when there is bad faith or when the transaction is unreasonable or causes disproportionate damage.	
Ease of holding Mr. James civilly liable	Ranges from 0 to 1. Equals 1 if the interested director is liable if the transaction is unfair, oppressive, or prejudicial; equals 0.5 when the interested director is liable if he either influenced the approval or was negligent; and equals 0 when the interested director is either not liable or liable only in cases of bad faith, intent, or gross negligence.	
Ease of holding the approving body civilly liable	Ranges from 0 to 1. Equals 1 if members of the approving body are liable if the transaction is unfair, oppressive, or prejudicial; equals 0.5 when members of the approving body are liable if they act negligently; and equals 0 when members of the approving body are either not liable or liable in only cases of intent, bad faith, or gross negligence.	
Access to evidence	Ranges from 0 to 1. Equals 0.25 for each of the following: 1) a shareholder owning at least 10% of the shares can request that the Court appoint an inspector to investigate Buyer’s affairs; 2) the plaintiff can request any documents relevant to the case from the defendant (without specifying which ones); 3) the plaintiff can examine the defendant without the Court approving the questions in advance; and 4) the plaintiff can examine non-parties without the Court approving the questions in advance. Equals 0.125 for each of the following: 1) the plaintiff can examine the defendant but questions require prior Court approval; and 2) the plaintiff can examine directly the non-parties but questions require prior Court approval.	
Prospectus disclosure	Attorney based survey. Adopts six measures for specific disclosure requirements for IPOs. The index is an arithmetic mean of a) prospectus; b) compensation; c) shareholders; d) inside ownership; e) contracts irregular; and f) transactions.	La Porta et al. (2006).
Prospectus	Equals 1 if the law prohibits selling securities to be listed on the largest stock exchange of the country without delivering a prospectus to potential investors; and equals 0 otherwise.	

Appendix 3 List of variables used in the ‘Law and Finance’ literature

Panel C: Shareholder protection variables		
Variable	Definition	Used in
Compensation	An index of prospectus disclosure requirements regarding the compensation of the issuer’s directors and key officers. Equals 1 if the law or the listing rules require that the compensation of each director and key officer be reported in the prospectus of a newly listed firm; equals 0.5 if only the aggregate compensation of directors and key officers must be reported in the prospectus of a newly listed firm; and equals 0 when there is no requirement to disclose the compensation of directors and key officers in the prospectus for a newly listed firm.	
Shareholders	An index of disclosure requirements regarding the issuer’s equity ownership structure. Equals 1 if the law or the listing rules require disclosing the name and ownership stake of each shareholder who, directly or indirectly, controls 10% or more of the issuer’s voting securities; equals 0.5 if reporting requirements for the issuer’s 10% shareholders do not include indirect ownership or if only their aggregate ownership needs to be disclosed; and equals 0 when the law does not require disclosing the name and ownership stake of the issuer’s 10% shareholders.	
Inside ownership	An index of prospectus disclosure requirements regarding the equity ownership of the issuer’s shares by its directors and key officers. Equals 1 if the law or the listing rules require that the ownership of the Issuer’s shares by each of its director and key officers be disclosed in the prospectus; equals 0.5 if only the aggregate number of the issuer’s shares owned by its directors and key officers must be disclosed in the prospectus; and equals 0 when the ownership of the issuer’s shares by its directors and key officers need not be disclosed in the prospectus.	
Irregular contracts	An index of prospectus disclosure requirements regarding the issuer’s contracts outside the ordinary course of business. Equals 1 if the law or the listing rules require that the terms of material contracts made by the issuer outside the ordinary course of its business be disclosed in the prospectus; equals 0.5 if the terms of only some material contracts made outside the ordinary course of business must be disclosed; and equals 0 otherwise.	
Transactions	An index of the prospectus disclosure requirements regarding transaction between the issuer and its directors, officers, or large shareholders. Equals 1 if the law or the listing rules require that all transactions in which related parties have, or will have, an interest be disclosed in the prospectus; equals 0.5 if only some transactions between the issuer and related parties must be disclosed in the prospectus; and equals 0 if transactions between the issuer and related parties need not be disclosed in the prospectus.	
Prospectus liability	Survey based. Adopts three liability standards for IPOs. The index of prospectus liability standards equals the arithmetic mean of a) liability standard for the issuer and its directors; b) liability standard for distributors; and c) liability standard for accountants.	La Porta et al. (2006).

Appendix 3 List of variables used in the ‘Law and Finance’ literature

Panel C: Shareholder protection variables		
Variable	Definition	Used in
Liability standard for the issuer and its directors	Index of the procedural difficulty in recovering losses from the issuer and its directors in a civil liability case for losses due to misleading statements in the prospectus. La Porta et al. (2006) first code separately the liability standard applicable to the issuer and its directors and then average the two of them. Equals 1 when investors are only required to prove that the prospectus contains a misleading statement; equals 2/3 when investors must also prove that they relied on the prospectus and/or that their loss was caused by the misleading statement; equals 1/3 when investors must also prove that the director acted with negligence; and equals 0 if restitution from directors is either unavailable or the liability standard is intent or gross negligence.	
Liability standard for distributors	Index of the procedural difficulty in recovering losses from the distributor in a civil liability case for losses due to misleading statements in the prospectus. Equals 1 when investors are only required to prove that the prospectus contains a misleading statement; equals 2/3 when investors must also prove that they relied on the prospectus and/or that their loss was caused by the misleading statement; equals 1/3 when investors must also prove that the distributor acted with negligence; and equals 0 if restitution from the distributor is either unavailable or the liability standard is intent or gross negligence.	
Liability standard for accountants	Index of the procedural difficulty in recovering losses from the accountant in a civil liability case for losses due to misleading statements in the audited financial information accompanying the prospectus. Equals 1 when investors are only required to prove that the audited financial information accompanying the prospectus contains a misleading statement; equals 2/3 when investors must also prove that they relied on the prospectus and/or that their loss was caused by the misleading accounting information; equals 1/3 when investors must also prove that the accountant acted with negligence; and equals 0 if restitution from the accountant is either unavailable or the liability standard is intent or gross negligence.	

Appendix 3 List of variables used in the ‘Law and Finance’ literature

Panel D: Law enforcement variables		
Variable	Definition	Used in
Efficiency of judicial system	International Corp assessment of the efficiency and integrity of the legal environment as it affects business, particularly foreign firms. It represents investors’ assessments of conditions in the country in question. Scale from 0 to 10; lower scores for lower efficiency levels.	La Porta et al. (1998); Stulz and Williamson (2003); La Porta (2006); and, Beck and Levine (2002).
Rule of law	International Country Risk (ICR) assessment of the law and order tradition in the country. Scale from 0 to 10, lower scores for less tradition for law and order.	La Porta et al. (1998); La Porta et al. (1997); Levine et al (2000); Beck et al. (2001); Stulz and Williamson (2003); Beck et al. (2003b); and, Spamann (2010).
Corruption	ICR’s assessment of the corruption in government. Lower scores indicate that high government officials are likely to demand special payments and illegal payments are generally expected throughout lower levels of government in the form of bribes connected with import and export licenses, exchange controls, tax assessment, policy protection, or loans. Scale from 0 to 10, with lower scores for higher levels of corruption.	La Porta et al. (1998); Levine et al. (2000); and, Stulz and Williamson (2003).
Risk of expropriation	ICR’s assessment of the risk of outright confiscation or forced nationalisation. Scale from 0 to 10, with lower scores for higher risk.	La Porta et al. (1998); Levine et al. (2000); and, Stulz and Williamson (2003).
Repudiation of contracts by government	ICR’s assessment of the risk of a modification in a contract taking the form of a repudiation, postponement, or scaling down due to budget cutbacks, indigenisation pressure, a change in government, or a change in government economic and social priorities. Scale from 0 to 10, with lower scores for higher risks.	La Porta et al. (1998); Levine et al. (2000); Beck et al. (2001); and, Stulz and Williamson (2003).
Property rights	Index of the degree to which the legal system protects private property. Scale from 1 to 5 where lower scores for weak property rights protection.	La Porta et al. (1999); Levine et al. (2000); Beck et al. (2001); and, Beck et al. (2003b).

Appendix 3 List of variables used in the ‘Law and Finance’ literature

Panel E: Control variables		
Variable	Definition	Used in
Legal origin	Identifies the legal origin of the company law or commercial code of each country. Equals 1 if the origin is English common law, and equals 0 if the origins the French commercial code.	La Porta et al. (1997); La Porta et al. (1998); Levine et al. (2000); Beck et al. (2001); Beck et al. (2003b); Lich et al. (2005); La Porta et al. (2006); Djankov et al. (2007); and, Djankov, La Porta, et al. (2008).
Ethnic fractionalisation	Average value of five different indices of ethno-linguistic fractionalisation: a) index of ethno-linguistic fractionalisation that measures the probability that two randomly selected people from a given country will not belong to the same ethno-linguistic group; b) probability of two randomly selected individuals speaking different languages; c) probability of two randomly selected individuals do not speak the same language; d) percent of the population not speaking the official language; and e) percent of the population not speaking the most widely used language. Scale from 0 to 1.	La Porta et al. (1999); Levine et al. (2000); and, Beck et al. (2003b).
Religion	Equal the fraction of the population that is Catholic, Muslim, or Protestant. Or, the dummy variables Protestant, Catholic, Muslim and Buddhist equals 1 if the name of the variable describes the primary religion; or equals 0 otherwise. The primary religion of a country is the religion practiced by the largest fraction of the population.	La Porta (1999); Levine et al. (2000); Beck et al. (2001); Stulz and Williamson (2003); Beck et al. (2003b); and, Djankov et al. (2007).
Year of independence	Calculated as the percentage of years since 1776 that a country has been independent.	Beck at el. (2001) and Beck et al. (2003b).
Language	The dummy variables English and Spanish equals 1 if the name of the variable describes the primary language of the country; or equals 0 otherwise. The primary language of a country is the language spoken by the largest fraction of the population.	Stulz and Williamson (2003) and Siems (2007).
Openness	Natural openness measured using the 1985 actual openness adjusted for geography as in Frankel and Romer (1999). Calculated as exports plus imports to GDP.	Beck et al. (2001) and Stulz and Williamson (2003).
Latitude	The value of the latitude of the country normalised. Scale from 0 and 1.	Beck et al. (2003b) and La Porta et al. (1999).

Appendix 4 Descriptive statistics by country

Variable	Country	N	Min	Max	Mean	Median	Standard Deviation	Skewness	Kurtosis	
Credit market development	Domestic credit to private sector (million USD)	Algeria	6	18,139.24	29,930.23	24,411.14	23,997.88	4,212.63	-0.19	-0.38
		Bahrain	6	13,578.29	21,261.42	18,516.60	19,418.74	2,721.30	-1.43	2.17
		Egypt	6	59,387.27	76,515.87	69,951.97	71,036.68	5,941.87	-1.20	1.90
		Iran	6	58,022.02	121,346.11	88,245.68	86,354.28	28,881.25	0.07	-2.95
		Iraq	6	2,199.45	12,936.97	6,735.59	5,844.85	4,176.46	0.55	-1.26
		Israel	6	162,845.93	231,009.65	198,133.35	202,328.69	23,288.05	-0.27	0.39
		Jordan	6	15,678.65	22,608.80	19,098.35	18,662.62	2,510.06	0.17	-0.73
		Kuwait	6	75,811.81	102,174.53	92,104.73	92,566.89	9,219.92	-1.12	1.83
		Lebanon	6	18,398.66	39,595.46	28,894.15	28,615.35	8,226.34	0.06	-1.68
		Libya	3	4,332.87	6,794.82	5,818.88	6,328.95	1,307.83	-1.49	
		Morocco	6	43,912.60	71,417.83	60,500.99	60,565.55	10,172.76	-0.68	0.28
		Oman	6	14,961.76	32,184.08	24,112.41	24,047.47	5,867.70	-0.30	0.56
		Palestine	6	1,195.94	2,791.83	1,960.77	1,864.12	588.77	0.26	-1.00
		Qatar	6	33,210.56	69,363.91	54,137.66	53,813.69	13,539.82	-0.44	-0.42
		Saudi Arabia	6	154,184.08	267,447.22	208,179.20	201,375.04	37,851.52	0.31	0.93
		Sudan	6	5,832.78	7,787.87	6,879.08	7,012.76	798.45	-0.32	-1.92
		Syria	4	6,104.19	13,609.12	9,893.76	9,930.87	3,117.30	-0.07	0.52
		Tunisia	6	22,515.66	35,043.16	29,378.16	28,747.02	4,833.10	-0.12	-1.21
		Turkey	6	190,885.16	429,318.33	298,810.94	280,631.88	96,271.97	0.35	-1.92
		UAE	6	144,530.98	226,705.79	205,960.43	214,925.40	30,626.72	-2.26	5.31
		Yemen	6	1,558.92	2,070.19	1,822.42	1,834.49	201.84	-0.13	-1.75
	Domestic credit to population	Algeria	6	6.25	6.66	6.49	6.48	0.14	-0.70	0.55
		Bahrain	6	9.48	9.76	9.64	9.67	0.11	-0.56	-1.06
		Egypt	6	6.68	6.85	6.80	6.83	0.06	-1.88	3.67
		Iran	6	6.66	7.41	7.04	7.04	0.36	-0.01	-3.11
		Iraq	6	4.34	5.98	5.22	5.21	0.63	-0.17	-1.49
		Israel	6	10.03	10.30	10.17	10.18	0.10	-0.24	-0.47
		Jordan	6	7.93	8.18	8.06	8.05	0.09	-0.12	-0.37
		Kuwait	6	10.30	10.45	10.36	10.36	0.05	1.08	2.24
		Lebanon	6	8.40	9.10	8.78	8.80	0.27	-0.28	-1.41
		Libya	3	6.62	7.04	6.88	6.98	0.23	-1.61	
		Morocco	6	7.27	7.71	7.55	7.56	0.16	-1.17	1.69
		Oman	6	8.67	9.18	9.03	9.08	0.18	-1.98	4.31
		Palestine	6	5.81	6.54	6.22	6.23	0.26	-0.50	-0.20
Qatar		6	10.27	10.47	10.40	10.41	0.07	-1.33	2.08	
Saudi Arabia		6	8.69	9.15	8.93	8.92	0.15	-0.28	1.37	
Sudan		6	5.17	5.39	5.27	5.28	0.08	0.05	-0.91	
Syria		4	5.74	6.45	6.13	6.17	0.29	-0.72	1.17	
Tunisia		6	7.70	8.10	7.93	7.92	0.15	-0.40	-0.59	
Turkey		6	7.92	8.67	8.29	8.27	0.30	0.08	-2.09	
UAE		6	10.11	10.35	10.18	10.14	0.09	1.52	1.62	
Yemen		6	4.20	4.56	4.39	4.44	0.14	-0.52	-1.51	

Appendix 4 Descriptive statistics by country

Variable	Country	N	Min	Max	Mean	Median	Standard Deviation	Skewness	Kurtosis	
Credit market development	Domestic credit to private sector to GDP	Algeria	6	13.17	16.61	14.57	14.28	1.33	0.69	-0.83
		Bahrain	6	62.48	84.82	71.55	69.47	7.71	1.03	1.33
		Egypt	6	29.11	45.52	36.29	34.58	6.57	0.55	-1.55
		Iran	6	11.39	37.28	23.42	22.95	12.06	0.07	-3.04
		Iraq	6	2.48	5.99	4.24	4.50	1.47	-0.17	-2.22
		Israel	6	78.97	94.42	89.05	89.62	5.43	-1.50	2.93
		Jordan	6	72.90	91.63	77.94	74.53	7.34	1.71	2.61
		Kuwait	6	55.76	85.17	68.11	64.81	10.72	0.80	-0.18
		Lebanon	6	73.43	92.20	81.36	79.65	8.74	0.23	-2.71
		Libya	3	6.03	10.90	7.91	6.79	2.62	1.57	
		Morocco	6	58.37	73.34	66.70	66.67	5.69	-0.30	-1.09
		Oman	6	35.32	48.21	40.44	40.59	4.75	0.65	0.39
		Palestine	6	19.14	32.48	25.37	24.81	4.38	0.42	1.47
		Qatar	6	36.05	51.85	42.34	41.28	5.48	1.06	1.46
		Saudi Arabia	6	34.19	45.63	38.58	37.65	3.83	1.39	3.00
		Sudan	6	11.24	12.84	12.18	12.38	0.74	-0.41	-2.39
		Syria	4	15.11	22.51	18.71	18.60	3.14	0.16	-0.53
		Tunisia	6	57.96	75.47	66.56	65.32	7.69	0.24	-2.31
		Turkey	6	29.50	54.40	41.19	40.35	9.93	0.20	-1.86
		UAE	6	56.04	84.05	67.54	65.53	10.45	0.72	-0.36
		Yemen	6	4.60	8.18	6.57	6.98	1.55	-0.39	-2.24
Stock market development	Market capitalisation (million USD)	Algeria	6	90.06	196.80	124.75	101.75	45.59	1.08	-0.82
		Bahrain	6	16,064.90	28,133.54	19,981.62	18,790.76	4,488.24	1.43	2.04
		Egypt	6	48,682.64	139,289.00	84,052.05	84,190.08	31,689.15	1.01	1.62
		Iran	6	45,573.81	140,843.43	82,103.63	74,957.61	37,106.00	0.75	-0.56
		Iraq	6	1,763.10	4,568.91	3,095.63	3,010.03	1,131.36	0.19	-1.62
		Israel	6	134,463.33	236,360.55	177,396.63	165,265.77	42,155.42	0.54	-1.81
		Jordan	6	26,998.00	41,216.42	32,328.87	31,364.62	5,451.99	0.84	0.01
		Kuwait	6	95,938.49	188,045.85	118,122.26	104,018.43	35,337.35	2.14	4.72
		Lebanon	6	9,640.56	12,893.19	11,072.77	10,576.84	1,351.32	0.65	-1.74
		Libya	0							
		Morocco	6	52,633.71	75,494.55	64,337.83	64,328.97	7,832.33	-0.11	0.28
		Oman	6	14,914.30	23,060.44	19,228.38	19,913.32	2,796.45	-0.40	0.36
		Palestine	6	2,123.06	2,634.10	2,431.55	2,462.34	174.23	-1.14	2.00
		Qatar	6	76,307.11	126,371.32	105,837.72	109,539.68	22,011.66	-0.31	-2.37
		Saudi Arabia	6	246,337.05	515,110.77	357,646.66	346,143.68	88,672.93	1.06	2.48
		Sudan	6	2,552.15	4,931.11	3,314.94	2,903.12	934.21	1.29	0.72
		Syria	0							
		Tunisia	6	5,355.08	10,681.71	8,346.55	9,003.51	2,045.18	-0.66	-1.11
		Turkey	6	117,929.86	308,774.56	241,248.56	256,153.64	74,693.94	-0.91	-0.02
		UAE	6	94,250.73	224,541.65	122,706.22	104,083.32	50,179.56	2.39	5.76
		Yemen	0							

Appendix 4 Descriptive statistics by country

Variable	Country	N	Min	Max	Mean	Median	Standard Deviation	Skewness	Kurtosis	
Stock market development	Market capitalisation to population	Algeria	6	0.91	1.65	1.17	1.04	0.31	0.99	-1.01
		Bahrain	6	9.41	10.21	9.70	9.63	0.29	1.13	0.98
		Egypt	6	6.42	7.54	6.93	7.00	0.40	0.21	-0.02
		Iran	6	6.45	7.52	6.93	6.91	0.42	0.25	-1.61
		Iraq	6	4.12	4.94	4.56	4.59	0.34	-0.24	-1.67
		Israel	6	9.82	10.40	10.04	9.97	0.25	0.54	-1.82
		Jordan	6	8.36	8.89	8.58	8.56	0.20	0.50	-0.74
		Kuwait	6	10.30	11.21	10.58	10.51	0.33	1.80	3.57
		Lebanon	6	7.74	8.02	7.85	7.81	0.12	0.51	-2.09
		Libya	0							
		Morocco	6	7.39	7.81	7.62	7.63	0.14	-0.44	0.55
		Oman	6	8.66	9.10	8.82	8.78	0.16	1.29	1.78
		Palestine	6	6.38	6.56	6.47	6.47	0.06	0.12	2.38
		Qatar	6	10.94	11.32	11.08	11.06	0.15	0.81	0.08
		Saudi Arabia	6	9.14	9.90	9.47	9.44	0.25	0.94	2.58
		Sudan	6	4.27	5.00	4.52	4.40	0.30	1.00	-0.42
		Syria	0							
		Tunisia	6	6.26	6.92	6.65	6.74	0.25	-0.83	-0.80
		Turkey	6	7.42	8.35	8.07	8.19	0.36	-1.36	1.53
		UAE	6	9.26	10.56	9.62	9.50	0.48	2.07	4.58
		Yemen	0							
	Market capitalisation to GDP	Algeria	6	0.05	0.10	0.07	0.07	0.02	0.81	0.95
		Bahrain	6	52.91	129.47	79.51	76.63	27.06	1.47	2.76
		Egypt	6	20.63	106.75	47.91	42.64	31.63	1.57	2.84
		Iran	6	13.78	25.50	18.91	18.87	4.13	0.55	0.19
		Iraq	6	1.53	2.74	2.16	2.18	0.40	-0.24	1.30
		Israel	6	56.14	135.09	82.42	75.79	30.42	1.14	0.87
		Jordan	6	87.05	240.88	139.32	125.29	56.89	1.33	1.67
		Kuwait	6	52.99	163.91	90.46	81.64	39.91	1.50	2.51
		Lebanon	6	23.97	43.33	32.64	32.98	7.29	0.22	-0.79
		Libya	0							
		Morocco	6	54.84	100.36	72.52	71.59	15.86	1.08	1.71
		Oman	6	24.55	55.04	33.97	31.32	11.29	1.62	2.81
		Palestine	6	25.69	47.75	33.01	31.70	8.26	1.29	1.71
		Qatar	6	65.68	119.79	85.14	81.05	21.30	0.84	-0.25
		Saudi Arabia	6	47.39	123.85	69.29	59.80	28.69	1.79	3.35
		Sudan	6	3.87	8.88	5.59	5.00	1.94	1.13	0.46
		Syria	0							
		Tunisia	6	13.78	24.07	18.88	20.13	4.06	-0.34	-1.39
		Turkey	6	16.15	44.28	34.05	37.93	10.81	-1.08	0.02
		UAE	6	26.89	86.98	41.61	33.99	22.88	2.15	4.84
		Yemen	0							

Appendix 4 Descriptive statistics by country

Variable	Country	N	Min	Max	Mean	Median	Standard Deviation	Skewness	Kurtosis
Creditor protection rights	Strength of legal rights index	Algeria	6	3.00	3.00	3.00	3.00	0.00	
		Bahrain	4	3.00	3.00	3.00	3.00	0.00	
		Egypt	6	3.00	3.00	3.00	3.00	0.00	
		Iran	6	4.00	4.00	4.00	4.00	0.00	
		Iraq	6	3.00	3.00	3.00	3.00	0.00	
		Israel	6	9.00	9.00	9.00	9.00	0.00	
		Jordan	6	2.00	2.00	2.00	2.00	0.00	
		Kuwait	6	3.00	3.00	3.00	3.00	0.00	
		Lebanon	6	3.00	3.00	3.00	3.00	0.00	
		Libya	0						
		Morocco	6	3.00	3.00	3.00	3.00	0.00	
		Oman	6	4.00	4.00	4.00	4.00	0.00	
		Palestine	6	1.00	1.00	1.00	1.00	0.00	
		Qatar	4	3.00	3.00	3.00	3.00	0.00	
		Saudi Arabia	6	3.00	5.00	3.33	3.00	0.82	2.45 6.00
		Sudan	6	4.00	4.00	4.00	4.00	0.00	
		Syria	6	1.00	1.00	1.00	1.00	0.00	
		Tunisia	6	3.00	3.00	3.00	3.00	0.00	
		Turkey	6	4.00	4.00	4.00	4.00	0.00	
		UAE	6	4.00	4.00	4.00	4.00	0.00	
		Yemen	6	2.00	2.00	2.00	2.00	0.00	
	Depth of credit information index	Algeria	6	1.00	2.00	1.83	2.00	0.41	-2.45 6.00
		Bahrain	4	3.00	3.00	3.00	3.00	0.00	
		Egypt	6	2.00	6.00	4.17	4.50	1.83	-0.36 -2.10
		Iran	6	3.00	4.00	3.17	3.00	0.41	2.45 6.00
		Iraq	6	0.00	0.00	0.00	0.00	0.00	
		Israel	6	5.00	5.00	5.00	5.00	0.00	
		Jordan	6	2.00	2.00	2.00	2.00	0.00	
		Kuwait	6	3.00	4.00	3.67	4.00	0.52	-0.97 -1.88
		Lebanon	6	4.00	5.00	4.83	5.00	0.41	-2.45 6.00
		Libya	0						
		Morocco	6	1.00	5.00	2.50	1.50	1.97	0.82 -1.95
		Oman	6	2.00	2.00	2.00	2.00	0.00	
		Palestine	6	0.00	3.00	2.33	3.00	1.21	-1.95 3.66
		Qatar	4	2.00	2.00	2.00	2.00	0.00	
		Saudi Arabia	6	5.00	6.00	5.67	6.00	0.52	-0.97 -1.88
		Sudan	6	0.00	0.00	0.00	0.00	0.00	
		Syria	6	0.00	2.00	0.33	0.00	0.82	2.45 6.00
		Tunisia	6	2.00	5.00	3.67	4.00	1.51	-0.21 -2.83
		Turkey	6	5.00	5.00	5.00	5.00	0.00	
		UAE	6	2.00	5.00	3.50	3.50	1.64	0.00 -3.33
		Yemen	6	0.00	2.00	0.67	0.00	1.03	0.97 -1.88

Appendix 4 Descriptive statistics by country

Variable	Country	N	Min	Max	Mean	Median	Standard Deviation	Skewness	Kurtosis
Creditor protection rights	Private bureau coverage	Algeria	6	0.00	0.00	0.00	0.00	0.00	
		Bahrain	4	23.00	29.10	26.55	27.05	3.06	-0.36
		Egypt	6	0.00	10.30	3.87	2.35	4.60	0.54
		Iran	6	0.00	4.50	0.75	0.00	1.84	2.45
		Iraq	6	0.00	0.00	0.00	0.00	0.00	
		Israel	6	88.20	100.00	93.43	91.30	5.22	0.75
		Jordan	6	0.00	0.00	0.00	0.00	0.00	
		Kuwait	6	14.50	31.20	22.98	22.85	8.16	-0.01
		Lebanon	6	0.00	0.00	0.00	0.00	0.00	
		Libya	0						
		Morocco	6	0.00	14.00	3.98	0.00	6.31	1.15
		Oman	6	0.00	0.00	0.00	0.00	0.00	
		Palestine	6	0.00	0.00	0.00	0.00	0.00	
		Qatar	4	0.00	0.00	0.00	0.00	0.00	
		Saudi Arabia	6	10.20	18.00	14.80	15.10	3.11	-0.45
		Sudan	6	0.00	0.00	0.00	0.00	0.00	
		Syria	6	0.00	0.00	0.00	0.00	0.00	
		Tunisia	6	0.00	0.00	0.00	0.00	0.00	
		Turkey	6	26.30	42.90	32.27	27.60	7.98	0.96
		UAE	6	0.00	17.70	6.33	3.85	7.62	0.65
		Yemen	6	0.00	0.00	0.00	0.00	0.00	
	Public registry coverage	Algeria	6	0.00	0.20	0.17	0.20	0.08	-2.45
		Bahrain	4	0.00	0.00	0.00	0.00	0.00	
		Egypt	6	1.20	2.90	2.00	1.95	0.64	0.22
		Iran	6	13.70	31.30	20.88	21.95	6.59	0.42
		Iraq	6	0.00	0.00	0.00	0.00	0.00	
		Israel	6	0.00	0.00	0.00	0.00	0.00	
		Jordan	6	0.60	1.50	0.93	0.90	0.32	1.19
		Kuwait	6	0.00	0.00	0.00	0.00	0.00	
		Lebanon	6	3.50	8.70	6.05	5.75	2.19	0.17
		Libya	0						
		Morocco	6	0.00	2.40	1.50	2.15	1.17	-0.91
		Oman	6	0.00	23.40	14.98	17.25	8.17	-1.46
		Palestine	6	0.00	7.80	3.73	3.70	3.30	0.06
		Qatar	4	0.00	0.10	0.03	0.00	0.05	2.00
		Saudi Arabia	6	0.00	0.20	0.07	0.00	0.10	0.97
		Sudan	6	0.00	0.00	0.00	0.00	0.00	
		Syria	6	0.00	2.20	0.37	0.00	0.90	2.45
		Tunisia	6	8.20	22.90	15.20	14.30	5.40	0.32
		Turkey	6	4.90	18.30	11.47	11.50	5.20	0.03
		UAE	6	1.40	8.40	4.47	4.10	3.27	0.14
		Yemen	6	0.10	0.30	0.15	0.10	0.08	1.54

Appendix 4 Descriptive statistics by country

Variable	Country	N	Min	Max	Mean	Median	Standard Deviation	Skewness	Kurtosis
Shareholder protection rights	Extent of disclosure index	Algeria	6	5.00	5.00	5.00	5.00	0.00	
		Bahrain	4	8.00	8.00	8.00	8.00	0.00	
		Egypt	6	4.00	5.00	4.50	4.50	0.55	0.00 -3.33
		Iran	6	5.00	5.00	5.00	5.00	0.00	
		Iraq	6	4.00	4.00	4.00	4.00	0.00	
		Israel	6	7.00	7.00	7.00	7.00	0.00	
		Jordan	6	4.00	4.00	4.00	4.00	0.00	
		Kuwait	6	4.00	4.00	4.00	4.00	0.00	
		Lebanon	6	9.00	9.00	9.00	9.00	0.00	
		Libya	0						
		Morocco	6	5.00	6.00	5.17	5.00	0.41	2.45 6.00
		Oman	6	8.00	8.00	8.00	8.00	0.00	
		Palestine	6	6.00	6.00	6.00	6.00	0.00	
		Qatar	4	5.00	5.00	5.00	5.00	0.00	
		Saudi Arabia	6	7.00	8.00	7.50	7.50	0.55	0.00 -3.33
		Sudan	6	0.00	0.00	0.00	0.00	0.00	
		Syria	6	6.00	7.00	6.17	6.00	0.41	2.45 6.00
		Tunisia	6	0.00	5.00	1.67	0.00	2.58	0.97 -1.88
		Turkey	6	8.00	9.00	8.50	8.50	0.55	0.00 -3.33
		UAE	6	4.00	4.00	4.00	4.00	0.00	
		Yemen	6	6.00	6.00	6.00	6.00	0.00	
	Extent of director liability index	Algeria	6	6.00	6.00	6.00	6.00	0.00	
		Bahrain	4	4.00	4.00	4.00	4.00	0.00	
		Egypt	6	3.00	3.00	3.00	3.00	0.00	
		Iran	6	4.00	4.00	4.00	4.00	0.00	
		Iraq	6	5.00	5.00	5.00	5.00	0.00	
		Israel	6	9.00	9.00	9.00	9.00	0.00	
		Jordan	6	4.00	4.00	4.00	4.00	0.00	
		Kuwait	6	9.00	9.00	9.00	9.00	0.00	
		Lebanon	6	1.00	1.00	1.00	1.00	0.00	
		Libya	0						
		Morocco	6	2.00	2.00	2.00	2.00	0.00	
		Oman	6	5.00	5.00	5.00	5.00	0.00	
		Palestine	6	5.00	5.00	5.00	5.00	0.00	
		Qatar	4	6.00	6.00	6.00	6.00	0.00	
		Saudi Arabia	6	7.00	8.00	7.50	7.50	0.55	0.00 -3.33
		Sudan	6	6.00	6.00	6.00	6.00	0.00	
		Syria	6	5.00	5.00	5.00	5.00	0.00	
		Tunisia	6	4.00	7.00	5.17	4.50	1.47	0.71 -2.05
		Turkey	6	4.00	4.00	4.00	4.00	0.00	
		UAE	6	6.00	6.00	6.00	6.00	0.00	
		Yemen	6	4.00	4.00	4.00	4.00	0.00	

Appendix 4 Descriptive statistics by country

Variable	Country	N	Min	Max	Mean	Median	Standard Deviation	Skewness	Kurtosis
Shareholder protection rights	Ease of shareholder suits index	Algeria	6	4.00	4.00	4.00	4.00	0.00	
		Bahrain	4	2.00	2.00	2.00	2.00	0.00	
		Egypt	6	3.00	3.00	3.00	3.00	0.00	
		Iran	6	0.00	0.00	0.00	0.00	0.00	
		Iraq	6	4.00	4.00	4.00	4.00	0.00	
		Israel	6	9.00	9.00	9.00	9.00	0.00	
		Jordan	6	1.00	1.00	1.00	1.00	0.00	
		Kuwait	6	2.00	2.00	2.00	2.00	0.00	
		Lebanon	6	5.00	5.00	5.00	5.00	0.00	
		Libya	0						
		Morocco	6	1.00	1.00	1.00	1.00	0.00	
		Oman	6	2.00	2.00	2.00	2.00	0.00	
		Palestine	6	5.00	5.00	5.00	5.00	0.00	
		Qatar	4	2.00	2.00	2.00	2.00	0.00	
		Saudi Arabia	6	3.00	4.00	3.50	3.50	0.55	0.00 -3.33
		Sudan	6	4.00	4.00	4.00	4.00	0.00	
		Syria	6	2.00	2.00	2.00	2.00	0.00	
		Tunisia	6	6.00	6.00	6.00	6.00	0.00	
		Turkey	6	4.00	4.00	4.00	4.00	0.00	
		UAE	6	2.00	2.00	2.00	2.00	0.00	
		Yemen	6	2.00	2.00	2.00	2.00	0.00	
	Anti-director rights index	Algeria	6	1.50	1.50	1.50	1.50	0.00	
		Bahrain	6	4.00	4.00	4.00	4.00	0.00	
		Egypt	6	3.00	3.00	3.00	3.00	0.00	
		Iran	6	2.50	2.50	2.50	2.50	0.00	
		Iraq	6	3.50	3.50	3.50	3.50	0.00	
		Israel	6	2.50	2.50	2.50	2.50	0.00	
		Jordan	6	1.50	1.50	1.50	1.50	0.00	
		Kuwait	6	3.00	4.00	3.17	3.00	0.41	2.45 6.00
		Lebanon	6	2.50	2.50	2.50	2.50	0.00	
		Libya	0						
		Morocco	6	2.50	2.50	2.50	2.50	0.00	
		Oman	6	4.00	4.00	4.00	4.00	0.00	
		Palestine	6	1.50	1.50	1.50	1.50	0.00	
		Qatar	6	4.50	4.50	4.50	4.50	0.00	
		Saudi Arabia	6	4.00	4.00	4.00	4.00	0.00	
		Sudan	6	2.50	2.50	2.50	2.50	0.00	
		Syria	0						
		Tunisia	6	2.50	2.50	2.50	2.50	0.00	
		Turkey	6	3.00	4.00	3.33	3.00	0.52	0.97 -1.88
		UAE	6	2.50	2.50	2.50	2.50	0.00	
		Yemen	0						

Appendix 4 Descriptive statistics by country

Variable	Country	N	Min	Max	Mean	Median	Standard Deviation	Skewness	Kurtosis
Judicial efficiency	Time (days)	Algeria	6	630.00	630.00	630.00	630.00	0.00	
		Bahrain	4	635.00	635.00	635.00	635.00	0.00	
		Egypt	6	1,010.00	1,010.00	1,010.00	1,010.00	0.00	
		Iran	6	505.00	520.00	517.50	520.00	6.12	-2.45 6.00
		Iraq	6	520.00	520.00	520.00	520.00	0.00	
		Israel	6	890.00	890.00	890.00	890.00	0.00	
		Jordan	6	689.00	689.00	689.00	689.00	0.00	
		Kuwait	6	566.00	566.00	566.00	566.00	0.00	
		Lebanon	6	721.00	721.00	721.00	721.00	0.00	
		Libya	0						
		Morocco	6	510.00	510.00	510.00	510.00	0.00	
		Oman	6	598.00	598.00	598.00	598.00	0.00	
		Palestine	6	540.00	700.00	656.67	700.00	69.76	-1.28 -0.05
		Qatar	4	670.00	670.00	670.00	670.00	0.00	
		Saudi Arabia	6	635.00	635.00	635.00	635.00	0.00	
		Sudan	6	810.00	810.00	810.00	810.00	0.00	
		Syria	6	872.00	872.00	872.00	872.00	0.00	
		Tunisia	6	565.00	565.00	565.00	565.00	0.00	
		Turkey	6	420.00	420.00	420.00	420.00	0.00	
		UAE	6	537.00	537.00	537.00	537.00	0.00	
		Yemen	6	520.00	520.00	520.00	520.00	0.00	
	Cost (% of claim)	Algeria	6	21.90	21.90	21.90	21.90	0.00	
		Bahrain	4	14.70	14.70	14.70	14.70	0.00	
		Egypt	6	26.20	26.20	26.20	26.20	0.00	
		Iran	6	17.00	17.00	17.00	17.00	0.00	
		Iraq	6	27.30	32.50	30.90	32.50	2.49	-1.01 -1.61
		Israel	6	25.30	25.30	25.30	25.30	0.00	
		Jordan	6	31.20	31.20	31.20	31.20	0.00	
		Kuwait	6	18.80	18.80	18.80	18.80	0.00	
		Lebanon	6	30.80	30.80	30.80	30.80	0.00	
		Libya	0						
		Morocco	6	25.20	25.20	25.20	25.20	0.00	
		Oman	6	13.50	13.50	13.50	13.50	0.00	
		Palestine	6	21.20	21.20	21.20	21.20	0.00	
		Qatar	4	21.60	21.60	21.60	21.60	0.00	
		Saudi Arabia	6	27.50	27.50	27.50	27.50	0.00	
		Sudan	6	19.80	19.80	19.80	19.80	0.00	
		Syria	6	29.30	29.30	29.30	29.30	0.00	
		Tunisia	6	21.80	21.80	21.80	21.80	0.00	
		Turkey	6	27.30	27.90	27.40	27.30	0.24	2.45 6.00
		UAE	6	19.50	19.50	19.50	19.50	0.00	
		Yemen	6	26.50	26.50	26.50	26.50	0.00	

Appendix 4 Descriptive statistics by country

Variable	Country	N	Min	Max	Mean	Median	Standard Deviation	Skewness	Kurtosis	
Judicial efficiency	Procedures (number)	Algeria	6	45.00	47.00	46.33	47.00	1.03	-0.97	-1.88
		Bahrain	4	48.00	48.00	48.00	48.00	0.00		
		Egypt	6	42.00	42.00	42.00	42.00	0.00		
		Iran	6	40.00	40.00	40.00	40.00	0.00		
		Iraq	6	51.00	51.00	51.00	51.00	0.00		
		Israel	6	35.00	35.00	35.00	35.00	0.00		
		Jordan	6	38.00	39.00	38.67	39.00	0.52	-0.97	-1.88
		Kuwait	6	50.00	50.00	50.00	50.00	0.00		
		Lebanon	6	37.00	37.00	37.00	37.00	0.00		
		Libya	0							
		Morocco	6	40.00	40.00	40.00	40.00	0.00		
		Oman	6	51.00	51.00	51.00	51.00	0.00		
		Palestine	6	44.00	44.00	44.00	44.00	0.00		
		Qatar	4	43.00	43.00	43.00	43.00	0.00		
		Saudi Arabia	6	43.00	43.00	43.00	43.00	0.00		
		Sudan	6	53.00	54.00	53.17	53.00	0.41	2.45	6.00
		Syria	6	55.00	55.00	55.00	55.00	0.00		
		Tunisia	6	39.00	39.00	39.00	39.00	0.00		
		Turkey	6	36.00	37.00	36.50	36.50	0.55	0.00	-3.33
		UAE	6	49.00	50.00	49.50	49.50	0.55	0.00	-3.33
		Yemen	6	36.00	36.00	36.00	36.00	0.00		
Law enforcement	Rule of law	Algeria	6	-0.82	-0.64	-0.73	-0.73	0.06	0.02	0.60
		Bahrain	6	0.39	0.57	0.50	0.52	0.08	-0.44	-2.13
		Egypt	6	-0.39	-0.06	-0.17	-0.15	0.12	-1.43	2.23
		Iran	6	-0.98	-0.85	-0.92	-0.93	0.04	0.49	0.78
		Iraq	6	-1.92	-1.51	-1.74	-1.78	0.15	0.62	-0.67
		Israel	6	0.81	1.00	0.87	0.86	0.07	1.23	1.21
		Jordan	6	0.20	0.46	0.34	0.33	0.11	0.00	-2.12
		Kuwait	6	0.55	0.65	0.60	0.61	0.04	-0.57	-0.12
		Lebanon	6	-0.71	-0.63	-0.68	-0.68	0.03	1.10	1.46
		Libya	6	-1.18	-0.70	-0.91	-0.89	0.16	-0.60	0.48
		Morocco	6	-0.29	-0.16	-0.23	-0.23	0.05	0.16	-1.53
		Oman	6	0.37	0.71	0.57	0.59	0.12	-0.75	0.01
		Palestine	6	-0.81	-0.21	-0.51	-0.47	0.23	-0.27	-1.43
		Qatar	6	0.63	1.01	0.82	0.81	0.14	0.05	-1.04
		Saudi Arabia	6	0.11	0.26	0.17	0.17	0.05	0.68	0.79
		Sudan	6	-1.41	-1.22	-1.31	-1.30	0.08	-0.27	-1.57
		Syria	6	-0.86	-0.49	-0.64	-0.64	0.14	-0.59	-0.14
		Tunisia	6	-0.11	0.20	0.12	0.16	0.12	-2.07	4.55
		Turkey	6	0.02	0.12	0.07	0.08	0.04	-0.51	-0.64
		UAE	6	0.36	0.53	0.43	0.42	0.07	0.36	-2.14
		Yemen	6	-1.27	-0.96	-1.06	-1.04	0.11	-1.48	2.55

Appendix 4 Descriptive statistics by country

Variable	Country	N	Min	Max	Mean	Median	Standard Deviation	Skewness	Kurtosis
Islamic culture	Islamic political institutions (IPI)	Algeria	6	3.00	3.00	3.00	3.00	0.00	
		Bahrain	6	1.00	1.00	1.00	1.00	0.00	
		Egypt	6	1.00	1.00	1.00	1.00	0.00	
		Iran	6	3.00	3.00	3.00	3.00	0.00	
		Iraq	6	3.00	3.00	3.00	3.00	0.00	
		Israel	6	0.00	0.00	0.00	0.00	0.00	
		Jordan	6	2.00	2.00	2.00	2.00	0.00	
		Kuwait	6	2.00	2.00	2.00	2.00	0.00	
		Lebanon	6	3.00	3.00	3.00	3.00	0.00	
		Libya	6	2.00	2.00	2.00	2.00	0.00	
		Morocco	6	3.00	3.00	3.00	3.00	0.00	
		Oman	6	0.00	0.00	0.00	0.00	0.00	
		Palestine	6	1.00	1.00	1.00	1.00	0.00	
		Qatar	6	0.00	0.00	0.00	0.00	0.00	
		Saudi Arabia	6	0.00	0.00	0.00	0.00	0.00	
		Sudan	6	2.00	2.00	2.00	2.00	0.00	
		Syria	6	1.00	1.00	1.00	1.00	0.00	
		Tunisia	6	1.00	1.00	1.00	1.00	0.00	
		Turkey	6	3.00	3.00	3.00	3.00	0.00	
		UAE	6	0.00	0.00	0.00	0.00	0.00	
		Yemen	6	2.00	2.00	2.00	2.00	0.00	
	Islamic financial institutions (IFI)	Algeria	6	2.00	2.00	2.00	2.00	0.00	
		Bahrain	6	3.00	3.00	3.00	3.00	0.00	
		Egypt	6	4.00	4.00	4.00	4.00	0.00	
		Iran	6	3.00	3.00	3.00	3.00	0.00	
		Iraq	6	3.00	3.00	3.00	3.00	0.00	
		Israel	6	0.00	0.00	0.00	0.00	0.00	
		Jordan	6	2.00	2.00	2.00	2.00	0.00	
		Kuwait	6	3.00	3.00	3.00	3.00	0.00	
		Lebanon	6	2.00	2.00	2.00	2.00	0.00	
		Libya	6	0.00	0.00	0.00	0.00	0.00	
		Morocco	6	3.00	3.00	3.00	3.00	0.00	
		Oman	6	2.00	2.00	2.00	2.00	0.00	
		Palestine	6	4.00	4.00	4.00	4.00	0.00	
		Qatar	6	4.00	4.00	4.00	4.00	0.00	
		Saudi Arabia	6	3.00	3.00	3.00	3.00	0.00	
		Sudan	6	4.00	4.00	4.00	4.00	0.00	
		Syria	6	0.00	0.00	0.00	0.00	0.00	
		Tunisia	6	2.00	2.00	2.00	2.00	0.00	
		Turkey	6	4.00	4.00	4.00	4.00	0.00	
		UAE	6	4.00	4.00	4.00	4.00	0.00	
		Yemen	6	4.00	4.00	4.00	4.00	0.00	

Appendix 4 Descriptive statistics by country

Variable	Country	N	Min	Max	Mean	Median	Standard Deviation	Skewness	Kurtosis
Islamic culture	Islamic educational institutions (IEI)	Algeria	6	1.29	1.29	1.29	1.29	0.00	
		Bahrain	6	0.00	0.00	0.00	0.00	0.00	
		Egypt	6	0.56	0.56	0.56	0.56	0.00	
		Iran	6	3.64	3.64	3.64	3.64	0.00	
		Iraq	6	1.57	1.57	1.57	1.57	0.00	
		Israel	6	0.00	0.00	0.00	0.00	0.00	
		Jordan	6	0.80	0.80	0.80	0.80	0.00	
		Kuwait	6	2.00	2.00	2.00	2.00	0.00	
		Lebanon	6	0.83	0.83	0.83	0.83	0.00	
		Libya	6	1.60	1.60	1.60	1.60	0.00	
		Morocco	6	1.56	1.56	1.56	1.56	0.00	
		Oman	6	0.57	0.57	0.57	0.57	0.00	
		Palestine	6	1.37	1.37	1.37	1.37	0.00	
		Qatar	6	1.00	1.00	1.00	1.00	0.00	
		Saudi Arabia	6	2.59	2.59	2.59	2.59	0.00	
		Sudan	6	2.50	2.50	2.50	2.50	0.00	
		Syria	6	0.67	0.67	0.67	0.67	0.00	
		Tunisia	6	0.67	0.67	0.67	0.67	0.00	
		Turkey	6	1.65	1.65	1.65	1.65	0.00	
		UAE	6	1.20	1.20	1.20	1.20	0.00	
		Yemen	6	1.33	1.33	1.33	1.33	0.00	
	Islamic institutionalisation index (III)	Algeria	6	6.29	6.29	6.29	6.29	0.00	
		Bahrain	6	4.00	4.00	4.00	4.00	0.00	
		Egypt	6	5.56	5.56	5.56	5.56	0.00	
		Iran	6	9.64	9.64	9.64	9.64	0.00	
		Iraq	6	7.57	7.57	7.57	7.57	0.00	
		Israel	6	0.00	0.00	0.00	0.00	0.00	
		Jordan	6	4.80	4.80	4.80	4.80	0.00	
		Kuwait	6	7.00	7.00	7.00	7.00	0.00	
		Lebanon	6	5.83	5.83	5.83	5.83	0.00	
		Libya	6	3.60	3.60	3.60	3.60	0.00	
		Morocco	6	7.56	7.56	7.56	7.56	0.00	
		Oman	6	2.57	2.57	2.57	2.57	0.00	
		Palestine	6	6.37	6.37	6.37	6.37	0.00	
		Qatar	6	5.00	5.00	5.00	5.00	0.00	
		Saudi Arabia	6	5.59	5.59	5.59	5.59	0.00	
		Sudan	6	8.50	8.50	8.50	8.50	0.00	
		Syria	6	1.67	1.67	1.67	1.67	0.00	
		Tunisia	6	3.67	3.67	3.67	3.67	0.00	
		Turkey	6	8.65	8.65	8.65	8.65	0.00	
		UAE	6	5.20	5.20	5.20	5.20	0.00	
		Yemen	6	7.33	7.33	7.33	7.33	0.00	

Appendix 4 Descriptive statistics by country

Variable	Country	N	Min	Max	Mean	Median	Standard Deviation	Skewness	Kurtosis
Duality of legal systems	Sharia index	Algeria	6	1.00	1.00	1.00	1.00	0.00	
		Bahrain	6	2.00	2.00	2.00	2.00	0.00	
		Egypt	6	3.00	3.00	3.00	3.00	0.00	
		Iran	6	4.00	4.00	4.00	4.00	0.00	
		Iraq	6	2.00	2.00	2.00	2.00	0.00	
		Israel	6	0.00	0.00	0.00	0.00	0.00	
		Jordan	6	1.00	1.00	1.00	1.00	0.00	
		Kuwait	6	2.00	2.00	2.00	2.00	0.00	
		Lebanon	6	0.00	0.00	0.00	0.00	0.00	
		Libya	6	1.00	3.00	1.67	1.00	1.03	0.97
		Morocco	6	1.00	1.00	1.00	1.00	0.00	-1.88
		Oman	6	3.00	3.00	3.00	3.00	0.00	
		Palestine	6	2.00	2.00	2.00	2.00	0.00	
		Qatar	6	2.00	2.00	2.00	2.00	0.00	
		Saudi Arabia	6	4.00	4.00	4.00	4.00	0.00	
		Sudan	6	3.00	3.00	3.00	3.00	0.00	
		Syria	6	2.00	2.00	2.00	2.00	0.00	
		Tunisia	6	1.00	1.00	1.00	1.00	0.00	
		Turkey	6	0.00	0.00	0.00	0.00	0.00	
		UAE	6	2.00	2.00	2.00	2.00	0.00	
		Yemen	6	3.00	3.00	3.00	3.00	0.00	
Macro-economic variables	GDP (million USD)	Algeria	6	117,026.66	199,070.86	153,415.78	149,209.55	29,600.67	0.49
		Bahrain	6	18,505.25	29,044.38	23,940.56	24,324.81	3,681.25	-0.17
		Egypt	6	107,484.03	236,000.74	174,108.78	175,901.13	50,054.06	-0.12
		Iran	6	222,880.53	528,426.10	363,097.00	359,324.74	106,317.36	-1.56
		Iraq	6	65,141.04	191,176.93	121,873.70	121,635.90	44,160.13	0.38
		Israel	6	150,985.57	258,216.78	205,793.59	209,458.42	38,538.08	0.22
		Jordan	6	15,056.94	28,840.20	22,204.16	22,895.92	5,320.67	0.43
		Kuwait	6	101,561.15	160,600.01	125,021.90	117,328.25	23,724.59	0.16
		Lebanon	6	22,438.47	40,094.33	31,574.04	32,365.17	6,943.13	-0.17
		Libya	6	40,587.26	93,167.70	67,557.58	67,081.86	18,601.52	-0.56
		Morocco	6	65,637.11	99,211.34	85,106.13	89,826.82	12,293.32	-0.25
		Oman	6	36,803.64	69,971.91	52,746.08	53,527.96	12,566.25	-1.41
		Palestine	6	4,619.10	9,775.30	6,812.38	6,483.45	1,943.15	0.79
		Qatar	6	60,882.14	173,518.82	109,085.64	106,534.20	39,589.42	-1.16
		Saudi Arabia	6	376,900.13	669,506.67	489,670.33	474,447.33	106,259.16	-0.20
		Sudan	6	35,159.25	64,849.93	52,730.86	53,461.19	11,289.97	-1.71
		Syria	6	33,332.84	64,272.53	50,857.52	53,334.82	11,850.05	-0.09
		Tunisia	6	34,377.24	46,434.62	42,063.80	43,992.66	4,547.69	-0.36
		Turkey	6	530,900.10	774,775.18	671,477.70	688,746.31	90,872.36	-0.82
		UAE	6	222,105.93	348,594.95	281,052.82	272,668.98	45,796.15	0.06
		Yemen	6	18,941.30	31,883.41	25,932.73	25,725.46	5,279.10	-1.41
									-0.72
									0.59
									-0.72
									0.45
									0.63
									-0.40
									-1.02
									0.37
									-0.71
									-0.67
									-1.63

Appendix 4 Descriptive statistics by country

Variable	Country	N	Min	Max	Mean	Median	Standard Deviation	Skewness	Kurtosis	
Macro-economic variables	GDP per capita (USD)	Algeria	6	3,391.37	5,271.59	4,236.03	4,097.71	702.85	0.45	-1.03
		Bahrain	6	19,251.12	23,037.88	20,968.53	20,797.77	1,545.21	0.30	-1.67
		Egypt	6	1,472.57	2,972.58	2,270.79	2,309.15	587.55	-0.21	-1.55
		Iran	6	3,140.20	7,006.05	4,939.22	4,915.30	1,338.99	0.32	0.25
		Iraq	6	2,321.15	6,019.42	4,036.34	4,086.96	1,296.29	0.30	-0.03
		Israel	6	21,405.16	33,250.51	27,677.50	28,325.88	4,264.65	-0.34	-0.55
		Jordan	6	2,719.82	4,665.94	3,767.25	3,912.23	760.52	-0.41	-1.44
		Kuwait	6	37,160.54	54,548.62	45,018.48	43,457.05	6,731.87	0.48	-1.35
		Lebanon	6	5,499.86	9,148.13	7,432.85	7,672.32	1,443.90	-0.30	-1.73
		Libya	6	6,650.13	15,853.46	11,451.69	11,436.88	3,176.72	-0.20	0.13
		Morocco	6	2,128.07	3,044.11	2,683.25	2,825.01	341.04	-1.00	-0.10
		Oman	6	14,405.09	23,421.36	19,393.90	19,549.19	3,709.22	-0.20	-1.89
		Palestine	6	1,356.03	2,489.22	1,844.35	1,775.99	427.53	0.55	-0.79
		Qatar	6	62,527.64	90,804.67	73,834.31	70,970.14	11,647.97	0.64	-1.36
		Saudi Arabia	6	14,855.00	24,116.17	18,345.67	17,687.58	3,436.15	0.95	0.37
		Sudan	6	862.29	1,537.60	1,224.94	1,221.95	240.93	-0.26	-0.27
		Syria	6	1,772.56	2,947.69	2,458.32	2,578.04	450.57	-0.72	-0.85
		Tunisia	6	3,394.31	4,350.34	4,043.19	4,191.96	374.84	-1.30	0.76
		Turkey	6	7,736.10	10,604.84	9,465.72	9,723.74	1,122.56	-0.68	-0.95
		UAE	6	33,012.82	46,402.64	40,427.45	41,773.24	5,933.35	-0.37	-2.34
		Yemen	6	916.73	1,400.67	1,173.68	1,171.91	192.49	-0.10	-1.73
	GDP real growth	Algeria	6	-24.12	20.81	7.96	12.21	16.32	-2.06	4.58
		Bahrain	6	-12.15	14.65	8.62	12.65	10.24	-2.38	5.73
		Egypt	6	-3.55	11.83	5.67	5.09	5.73	-0.53	0.26
		Iran	6	-7.74	5.64	0.54	1.68	5.07	-0.89	-0.04
		Iraq	6	-20.89	38.78	14.50	25.03	24.41	-0.84	-1.43
		Israel	6	-7.08	17.34	8.98	10.87	8.40	-1.76	3.85
		Jordan	6	4.55	17.73	8.85	6.93	4.99	1.38	1.42
		Kuwait	6	-28.99	27.64	8.53	13.11	20.17	-1.57	2.84
		Lebanon	6	-4.26	12.87	5.36	5.09	6.28	-0.35	-0.31
		Libya	6	-60.41	25.62	-1.99	18.21	35.89	-1.18	-0.45
		Morocco	6	-2.27	13.36	7.08	7.53	5.77	-0.70	0.11
		Oman	6	-21.31	29.69	9.99	14.69	17.23	-1.32	2.59
		Palestine	6	-4.26	20.65	8.96	10.57	10.40	-0.31	-1.91
		Qatar	6	-10.82	33.70	19.27	23.98	16.06	-1.66	2.97
		Saudi Arabia	6	-20.63	22.62	7.99	12.89	15.26	-1.65	3.07
		Sudan	6	-16.99	18.83	1.80	4.98	14.98	-0.42	-1.77
		Syria	6	-0.41	15.69	7.09	6.67	6.35	0.21	-1.59
		Tunisia	6	-6.25	10.69	2.21	1.78	6.27	0.07	-1.01
		Turkey	6	-21.01	12.47	0.33	1.39	12.32	-1.04	1.26
		UAE	6	-20.20	20.36	7.03	11.68	14.36	-1.74	3.39
		Yemen	6	-19.22	15.31	-0.03	3.69	14.41	-0.55	-1.73

Appendix 4 Descriptive statistics by country

Variable	Country	N	Min	Max	Mean	Median	Standard Deviation	Skewness	Kurtosis	
Macro-economic variables	Population (million)	Algeria	6	34.51	37.76	36.09	36.05	1.22	0.11	-1.21
		Bahrain	6	0.95	1.29	1.14	1.15	0.13	-0.36	-1.30
		Egypt	6	72.99	79.39	76.16	76.13	2.40	0.04	-1.20
		Iran	6	70.98	75.42	73.15	73.10	1.66	0.10	-1.17
		Iraq	6	28.06	31.76	29.85	29.80	1.38	0.13	-1.19
		Israel	6	7.05	7.77	7.40	7.40	0.27	0.07	-1.44
		Jordan	6	5.54	6.18	5.85	5.85	0.24	0.05	-1.18
		Kuwait	6	2.42	3.12	2.77	2.78	0.27	-0.03	-1.31
		Lebanon	6	4.08	4.38	4.23	4.22	0.12	0.16	-1.50
		Libya	6	5.69	6.10	5.91	5.92	0.16	-0.25	-1.25
		Morocco	6	30.40	32.06	31.17	31.12	0.62	0.29	-1.03
		Oman	6	2.55	3.02	2.70	2.63	0.18	1.38	1.26
		Palestine	6	3.41	3.93	3.66	3.65	0.20	0.14	-1.22
		Qatar	6	0.97	1.91	1.45	1.46	0.36	-0.09	-1.39
		Saudi Arabia	6	25.37	27.76	26.58	26.58	0.88	-0.03	-0.95
		Sudan	6	32.40	36.43	34.43	34.45	1.51	-0.03	-1.22
		Syria	6	18.80	21.96	20.54	20.69	1.20	-0.38	-1.23
		Tunisia	6	10.13	10.67	10.39	10.38	0.20	0.14	-1.15
		Turkey	6	68.63	73.06	70.82	70.80	1.66	0.04	-1.17
		UAE	6	4.88	8.93	7.09	7.26	1.57	-0.33	-1.38
		Yemen	6	20.66	23.30	21.97	21.97	0.99	0.03	-1.19
	Rate of inflation	Algeria	6	2.72	5.75	4.52	4.83	1.08	-0.95	0.56
		Bahrain	6	0.18	5.12	2.15	1.32	1.95	0.88	-1.02
		Egypt	6	7.24	20.18	11.40	10.33	4.59	1.80	3.72
		Iran	6	10.42	22.48	17.94	18.84	4.53	-0.93	0.25
		Iraq	6	-4.41	64.82	13.53	5.35	25.45	2.31	5.51
		Israel	6	-0.10	3.92	2.64	3.03	1.50	-1.47	2.17
		Jordan	6	2.68	9.07	5.61	5.59	2.45	0.20	-1.21
		Kuwait	6	1.18	9.02	5.13	4.70	2.80	0.11	-0.43
		Lebanon	6	3.07	7.21	5.18	5.52	1.66	-0.30	-1.69
		Libya	6	0.33	26.65	9.14	7.40	9.21	1.72	3.58
		Morocco	6	-1.57	4.23	1.83	2.07	2.02	-0.86	1.01
		Oman	6	0.92	11.78	5.46	4.23	3.90	0.85	0.11
		Palestine	6	1.86	9.89	4.37	3.79	2.83	1.95	4.37
		Qatar	6	-4.86	15.05	6.35	6.88	8.26	-0.25	-2.18
		Saudi Arabia	6	2.79	9.50	5.28	4.89	2.41	1.14	1.29
		Sudan	6	8.80	18.88	14.88	15.41	3.30	-1.32	3.30
		Syria	6	1.72	15.39	6.94	6.52	4.56	1.43	3.26
		Tunisia	6	3.27	5.07	4.11	4.09	0.58	0.45	2.35
		Turkey	6	6.40	10.45	8.58	9.02	1.78	-0.42	-2.16
		UAE	6	0.77	11.72	5.24	3.91	4.98	0.40	-2.36
		Yemen	6	7.86	23.17	12.39	10.98	5.54	1.96	4.24

Source: Thesis analysis.

Appendix 5 Bootstrap results

Appendix 5 Bootstrap results for legal origin and financial market development

Dependent variable	Reg	Legal origin	Rate of inflation	GDP	GDP growth	Constant	N×T R ²
<i>Credit Market</i>							
Domestic credit to private sector	(1)	0.3290 [-0.05 - 0.79]	-0.0495** [-0.09 - -0.01]	1.0247*** [0.75 - 1.24]		-1.3553 [-4.67 - 2.63]	121 71.65%
Domestic credit to population	(2)	0.9296* [0.06 - 1.96]	-0.0938*** [-0.21 - -0.003]	0.4366** [0.08 - 0.76]		-2.6888 [-9.20 - 4.51]	121 30.16%
Domestic credit GDP	(3)	13.1739* [0.66 - 28.87]	-1.3826*** [-3.07 - -0.43]		-0.1851 [-0.27 - 0.25]	52.2294*** [36.86 - 69.81]	121 19.67%
<i>Stock Market</i>							
Market capitalisation	(4)	0.6344 [-0.23 - 1.74]	-0.0285 [-0.07 - 0.06]	0.8088*** [0.14 - 1.20]		3.5637 [-2.34 - 12.08]	108 27.32%
Market capitalisation to population	(5)	1.1850 [-0.13 - 2.77]	-0.0693 [-0.16 - 0.03]	0.1581 [-0.31 - 0.52]		3.8598 [-4.51 - 14.70]	108 10.99%
Market capitalisation to GDP	(6)	7.6433 [-10.65 - 26.09]	-1.1478** [-2.71 - -0.08]		0.2363 [-0.22 - 0.61]	53.3459*** [31.85 - 78.87]	108 6.38%

Source: Thesis analysis.

Note: Confidence intervals are reported in brackets. If the coefficient is statistically significant at 1% level then the 0.5th and 99.5th percentiles are reported. If the coefficient is statistically significant at 5% level then the 2.5th and 97.5th percentiles are reported. If the coefficient is statistically significant at 10% or insignificant then the 5th and 95th percentiles are reported.

Appendix 5 Bootstrap results for credit market development and creditor protection

Dependent variable	Reg	Strength of legal rights	Depth of credit information	Private bureau coverage	Public registry coverage	Rate of inflation	GDP	GDP growth	Constant	N×T R ²
Domestic credit to private sector	(1)	0.1625*** [0.02 - 0.53]				-0.0486** [-0.09 - -0.01]	0.9471*** [0.65 - 1.18]		0.1505 [-3.35 - 4.04]	114 75.19%
Domestic credit to population	(2)	0.3625*** [0.12 - 1.20]				-0.0960*** [-0.21 - -0.03]	0.3050 [-0.02 - 0.59]		-0.3958 [-7.16 - 6.83]	114 37.07%
Domestic credit GDP	(3)	5.9750** [1.82 - 8.48]				-1.3622*** [-3.07 - -0.45]		-0.1552 [-0.27 - 0.22]	35.7341*** [15.15 - 64.65]	114 27.27%
Domestic credit to private sector	(4)		0.2918*** [0.11 - 0.45]			-0.0345** [-0.07 - -0.01]	0.8417*** [0.52 - 1.09]		2.4249 [-1.40 - 6.60]	114 83.03%
Domestic credit to population	(5)		0.4506*** [0.12 - 0.75]			-0.0764*** [-0.18 - -0.03]	0.2192 [-0.09 - 0.52]		1.5605 [-5.58 - 8.96]	114 45.96%
Domestic credit GDP	(6)		7.0481*** [2.66 - 11.90]			-1.0215*** [-2.68 - -0.36]		-0.0098 [-0.08 - 0.29]	32.3308*** [14.88 - 55.50]	114 37.37%
Domestic credit to private sector	(7)			0.0119*** [0.004 - 0.04]		-0.0441** [-0.08 - -0.01]	0.9783*** [0.67 - 1.21]		-0.2513 [-3.87 - 4.03]	114 75.56%
Domestic credit to population	(8)			0.0260*** [0.01 - 0.10]		-0.0865*** [-0.19 - -0.02]	0.3785** [0.002 - 0.73]		-1.3821 [-8.33 - 6.23]	114 37.94%
Domestic credit GDP	(9)			0.4844*** [0.12 - 1.06]		-1.1489*** [-2.85 - -0.26]		-0.1255 [-0.25 - 0.21]	48.8147*** [33.69 - 66.41]	114 29.91%
Domestic credit to private sector	(10)				0.0208* [0.003 - 0.05]	-0.0534*** [-0.11 - -0.01]	1.0387*** [0.81 - 1.27]		-1.6708 [-5.27 - 1.67]	114 73.86%
Domestic credit to population	(11)				0.0202 [-0.01 - 0.08]	-0.1044*** [-0.22 - -0.05]	0.5352*** [0.08 - 0.99]		-5.0189 [-11.76 - 1.12]	114 30.05%
Domestic credit GDP	(12)				0.2554 [-0.35 - 1.14]	-1.4372*** [-3.29 - -0.53]		-0.1374 [-0.29 - 0.23]	54.8657*** [38.54 - 73.06]	114 15.52%
Domestic credit to private sector	(13)	0.1444* [0.02 - 0.39]	0.2823*** [0.12 - 0.48]	-0.0035 [-0.02 - 0.01]	0.0035 [-0.02 - 0.02]	-0.0350** [-0.07 - -0.01]	0.7696*** [0.45 - 1.00]		3.8131* [0.39 - 8.06]	114 84.06%
Domestic credit to population	(14)	0.2967 [-0.05 - 0.86]	0.4179*** [0.13 - 0.77]	-0.0018 [-0.03 - 0.04]	-0.0037 [-0.05 - 0.05]	-0.0737*** [-0.18 - -0.02]	0.0549 [-0.33 - 0.34]		4.8221 [-1.97 - 13.71]	114 50.28%
Domestic credit GDP	(15)	2.0496 [-3.20 - 8.25]	5.7894*** [0.91 - 12.57]	0.1321 [-0.42 - 0.50]	-0.1411 [-0.86 - 0.67]	-0.9892*** [-2.65 - -0.28]		-0.0381 [-0.10 - 0.27]	28.2717** [3.17 - 50.58]	114 41.37%

Source: Thesis analysis.

Appendix 5 Bootstrap results for stock market development and shareholder protection

Dependent variable	Reg	Extent of disclosure index	Extent of director liability	Ease of shareholder suits	Anti-director rights	Rate of inflation	GDP	GDP growth	Constant	N×T R ²
Market cap	(1)	0.1679*** [0.001 - 0.38]				-0.0222 [-0.05 - 0.05]	0.8304*** [0.27 - 1.13]		2.2099 [-2.53 - 9.51]	104 30.47%
Market cap to population	(2)	0.2932*** [0.02 - 0.58]				-0.0606 [-0.13 - 0.004]	0.2156 [-0.19 - 0.52]		1.0039 [-5.91 - 10.43]	104 16.23%
Market cap to GDP	(3)	1.3301 [-2.39 - 3.98]				-1.1382** [-2.69 - -0.33]		0.1130 [-0.29 - 0.47]	47.3346*** [17.29 - 102.34]	104 6.29%
Market cap	(4)		-0.0148 [-0.22 - 0.13]			-0.0345 [-0.07 - 0.03]	0.8928*** [0.29 - 1.24]		1.6808 [-3.59 - 8.55]	104 26.83%
Market cap to population	(5)		0.1986 [-0.06 - 0.39]			-0.0749* [-0.16 - -0.01]	0.2081 [-0.19 - 0.51]		1.8336 [-5.44 - 11.36]	104 10.99%
Market cap to GDP	(6)		2.3021 [-2.39 - 3.98]			-1.1835** [-2.69 - -0.33]		0.0828 [-0.29 - 0.47]	43.1876*** [17.29 - 102.34]	104 7.08%
Market cap	(7)			-0.1553 [-0.47 - 0.003]		-0.0395 [-0.08 - 0.02]	0.8680*** [0.20 - 1.24]		2.7884 [-3.05 - 11.76]	104 29.33%
Market cap to population	(8)			-0.1735 [-0.65 - 0.05]		-0.0874** [-0.19 - -0.02]	0.2921 [-0.13 - 0.60]		1.3904 [-6.32 - 12.25]	104 10.50%
Market cap to GDP	(9)			-4.4226 [-12.53 - 0.50]		-1.3999*** [-3.61 - -0.004]		0.0804 [-0.28 - 0.46]	71.2649*** [35.73 - 116.99]	104 10.68%
Market cap	(10)				0.7601 [-0.25 - 1.62]	-0.0300 [-0.07 - 0.06]	0.6750** [0.14 - 1.18]		4.9549 [-3.82 - 14.16]	108 35.65%
Market cap to population	(11)				1.4385** [0.31 - 2.32]	-0.0720 [-0.13 - 0.02]	-0.0963 [-0.53 - 0.37]		6.5150 [-3.35 - 16.04]	108 31.38%
Market cap to GDP	(12)				4.0106 [-11.02 - 17.18]	-1.2055** [-2.68 - -0.25]		0.1796 [-0.27 - 0.58]	44.8138* [2.03 - 93.77]	108 6.41%
Market cap	(13)	0.1406 [-0.03 - 0.32]	0.0731 [-0.17 - 0.24]	-0.1605 [-0.48 - 0.07]	0.5652 [-0.54 - 1.60]	-0.0249 [-0.05 - 0.06]	0.6288* [0.11 - 1.00]		6.0476 [-1.71 - 17.35]	104 38.84%
Market cap to population	(14)	0.2920** [0.02 - 0.60]	0.3588* [0.06 - 0.60]	-0.2635 [-0.66 - -0.01]	0.9856 [-0.31 - 2.05]	-0.0542 [-0.10 - 0.04]	-0.2694 [-0.82 - 0.18]		9.5133* [0.04 - 21.87]	104 39.14%
Market cap to GDP	(15)	3.2501* [0.15 - 6.01]	5.3918* [0.34 - 8.85]	-6.7363* [-13.44 - -0.78]	-6.2407 [-24.51 - 9.69]	-1.1566** [-3.04 - -0.20]		0.0840 [-0.23 - 0.48]	50.1262 [-12.81 - 112.48]	104 17.62%

Source: Thesis analysis.

Appendix 5 Bootstrap results for law enforcement and financial market development

Dependent variable	Reg	Rule of law	Legal origin	Rate of inflation	GDP	GDP growth	Constant	N×T R ²
<i>Credit Market</i>								
Domestic credit	(1)	0.9304*** [0.50 - 1.16]		-0.0138 [-0.03 - 0.004]	0.9397*** [0.80 - 1.08]		0.7784 [-1.44 - 3.10]	121 88.08%
Domestic credit to population	(2)	2.0295*** [1.58 - 2.45]		-0.0173* [-0.06 - -0.003]	0.2682** [0.07 - 0.44]		1.6008 [-2.07 - 5.77]	121 80.91%
Domestic credit to GDP	(3)	24.6307*** [12.85 - 34.18]		-0.5046** [-1.60 - -0.05]		-0.2173 [-0.16 - 0.12]	53.9399*** [43.50 - 66.35]	121 52.51%
Domestic credit	(4)	0.9251*** [0.50 - 1.18]	0.0432 [-0.14 - 0.23]	-0.0138 [-0.03 - 0.005]	0.9369*** [0.78 - 1.08]		0.8372 [-1.43 - 3.27]	121 88.09%
Domestic credit to population	(5)	1.9904*** [1.47 - 2.42]	0.3147* [0.03 - 0.68]	-0.0169* [-0.06 - -0.002]	0.2477** [0.05 - 0.42]		2.0288 [-1.51 - 6.11]	121 81.43%
Domestic credit to GDP	(6)	23.9804*** [11.53 - 33.38]	4.4147 [-3.56 - 14.51]	-0.5048** [-1.59 - -0.06]		-0.2105 [-0.15 - 0.13]	52.6766*** [40.45 - 66.58]	121 52.97%
<i>Stock Market</i>								
Market capitalisation	(7)	1.6353*** [0.68 - 2.86]		0.0297 [-0.01 - 0.10]	0.7246*** [0.24 - 1.05]		5.6276* [0.40 - 12.09]	108 55.56%
Market capitalisation to population	(8)	2.7327*** [1.85 - 4.24]		0.0274 [-0.03 - 0.09]	0.0259 [-0.27 - 0.26]		7.1326** [0.38 - 15.80]	108 63.59%
Market capitalisation to GDP	(9)	34.4536*** [20.53 - 47.64]		0.0552 [-1.01 - 0.36]		0.2039 [-0.07 - 0.46]	50.8437*** [38.61 - 65.82]	108 36.58%
Market capitalisation	(10)	1.6106*** [0.68 - 2.78]	0.2292 [-0.28 - 0.85]	0.0300 [-0.01 - 0.11]	0.7108*** [0.16 - 1.05]		5.9063* [0.47 - 13.05]	108 55.81%
Market capitalisation to population	(11)	2.6776*** [1.73 - 4.12]	0.5114 [-0.06 - 1.20]	0.0281 [-0.03 - 0.10]	-0.0047 [-0.32 - 0.25]		7.7543** [0.71 - 17.09]	108 64.42%
Market capitalisation to GDP	(12)	34.7134*** [18.97 - 49.74]	-2.1267 [-17.56 - 12.16]	0.0550 [-1.05 - 0.36]		0.2008 [-0.08 - 0.44]	51.4853*** [35.73 - 71.18]	108 36.63%

Source: Thesis analysis.

Appendix 5 Bootstrap results for judicial efficiency and credit market development

Dependent variable	Reg	Time	Cost of claim	Procedures	Rate of inflation	GDP	GDP growth	Constant	N×T R ²
Domestic credit	(1)	0.0009 [*] [0.0001 - 0.002]			-0.0515 ^{***} [-0.11 - -0.01]	1.0772 ^{***} [0.85 - 1.29]		-3.1552 [-7.04 - 0.26]	114 73.8%
Domestic credit to population	(2)	0.0004 [-0.001 - 0.004]			-0.1025 ^{***} [-0.22 - -0.04]	0.5627 ^{***} [0.12 - 0.97]		-5.8853 [-13.75 - 0.39]	114 29.6%
Domestic credit to GDP	(3)	0.0178 [-0.01 - 0.07]			-1.4185 ^{***} [-3.39 - -0.53]		-0.1704 [-0.32 - 0.19]	44.6042 ^{**} [4.10 - 71.27]	114 16.0%
Domestic credit	(4)		-0.0172 [-0.07 - 0.02]		-0.0510 ^{***} [-0.10 - -0.01]	1.0588 ^{***} [0.82 - 1.30]		-1.7016 [-5.09 - 1.81]	114 73.3%
Domestic credit to population	(5)		-0.0887 ^{**} [-0.19 - -0.01]		-0.1001 ^{***} [-0.22 - -0.05]	0.5532 ^{***} [0.13 - 1.01]		-3.3223 [-9.33 - 2.87]	114 35.9%
Domestic credit to GDP	(6)		0.2049 [-1.20 - 1.31]		-1.4246 ^{***} [-3.28 - -0.55]		-0.1628 [-0.30 - 0.20]	51.2120 ^{***} [9.20 - 100.41]	114 15.3%
Domestic credit	(7)			-0.0390 [*] [-0.08 - -0.01]	-0.0491 ^{***} [-0.10 - -0.01]	1.0451 ^{***} [0.78 - 1.27]		-0.0709 [-4.84 - 5.07]	114 75.4%
Domestic credit to population	(8)			-0.0102 [-0.09 - 0.06]	-0.1019 ^{***} [-0.22 - -0.04]	0.5514 ^{***} [0.09 - 0.96]		-4.9139 [-12.73 - 3.63]	114 29.6%
Domestic credit to GDP	(9)			-1.4998 ^{**} [-2.78 - -0.18]	-1.2948 ^{***} [-3.07 - -0.45]		-0.0560 [-0.23 - 0.25]	119.8676 ^{***} [43.43 - 193.98]	114 25.7%
Domestic credit	(10)	0.0014 ^{**} [0.0002 - 0.003]	-0.0502 [*] [-0.10 - -0.01]	-0.0583 ^{**} [-0.11 - -0.01]	-0.0466 ^{***} [-0.11 - -0.02]	1.0640 ^{***} [0.79 - 1.33]		0.5729 [-4.57 - 6.02]	114 78.8%
Domestic credit to population	(11)	0.0012 [-0.0005 - 0.005]	-0.1184 ^{**} [-0.23 - -0.03]	-0.0524 [-0.12 - 0.01]	-0.0961 ^{***} [-0.22 - -0.04]	0.5579 ^{***} [0.10 - 1.04]		-1.2788 [-10.10 - 7.19]	114 38.9%
Domestic credit to GDP	(12)	0.0273 [-0.01 - 0.07]	-0.7567 [-2.08 - 0.36]	-1.8111 ^{**} [-3.05 - -0.22]	-1.2459 ^{***} [-3.26 - -0.40]		-0.0409 [-0.18 - 0.25]	133.2386 ^{***} [14.12 - 234.39]	114 28.7%

Source: Thesis analysis.

Appendix 5 Bootstrap results for judicial efficiency and stock market development

Dependent variable	Reg	Time	Cost of claim	Procedures	Rate of inflation	GDP	GDP growth	Constant	N×T R ²
Market capitalisation	(1)	0.0011 [-0.001 - 0.003]			-0.0350 [-0.08 - 0.02]	0.9124*** [0.28 - 1.30]		0.3863 [-5.69 - 8.76]	104 27.43%
Market capitalisation to population	(2)	0.0004 [-0.002 - 0.004]			-0.0816** [-0.19 - -0.002]	0.3217 [-0.07 - 0.65]		-0.2587 [-9.16 - 9.75]	104 8.31%
Market capitalisation to GDP	(3)	0.0427* [0.002 - 0.10]			-1.2466*** [-3.25 - -0.19]		0.0958 [-0.31 - 0.44]	27.8196 [-7.82 - 56.53]	104 7.94%
Market capitalisation	(4)		0.0152 [-0.05 - 0.09]		-0.0341 [-0.07 - 0.04]	0.8812*** [0.35 - 1.31]		1.5448 [-4.06 - 8.08]	104 26.96%
Market capitalisation to population	(5)		-0.0477 [-0.15 - 0.05]		-0.0809** [-0.19 - -0.01]	0.3238 [-0.05 - 0.70]		1.0687 [-7.33 - 9.95]	104 9.32%
Market capitalisation to GDP	(6)		1.5175 [-0.68 - 3.61]		-1.2517** [-2.54 - -0.21]		0.0843 [-0.34 - 0.39]	20.1668 [-27.66 - 68.69]	104 9.41%
Market capitalisation	(7)			-0.1050*** [-0.25 - -0.02]	-0.0223 [-0.05 - 0.03]	0.8195*** [0.32 - 1.17]		7.9620* [0.72 - 17.57]	104 34.87%
Market capitalisation to population	(8)			-0.0716 [-0.19 - 0.02]	-0.0732** [-0.17 - -0.003]	0.2665 [-0.12 - 0.60]		4.4875 [-5.57 - 16.88]	104 10.92%
Market capitalisation to GDP	(9)			-1.8761** [-3.82 - -0.09]	-1.0065** [-2.53 - -0.35]		0.2051 [-0.24 - 0.49]	134.7534*** [31.91 - 253.92]	104 11.95%
Market capitalisation	(10)	0.0008 [-0.001 - 0.002]	-0.0552 [-0.11 - 0.02]	-0.1284** [-0.22 - -0.04]	-0.0200 [-0.07 - 0.03]	0.8383*** [0.20 - 1.27]		9.2643* [0.26 - 19.97]	104 36.54%
Market capitalisation to population	(11)	0.0005 [-0.002 - 0.003]	-0.1144* [-0.22 - -0.02]	-0.1241* [-0.23 - -0.01]	-0.0669** [-0.19 - -0.01]	0.2747 [-0.13 - 0.72]		8.8897 [-4.86 - 22.53]	104 15.53%
Market capitalisation to GDP	(12)	0.0335 [-0.01 - 0.08]	0.5855 [-1.70 - 3.36]	-1.4986 [-3.16 - 0.61]	-1.0771** [-2.60 - -0.34]		0.1692 [-0.26 - 0.41]	83.9077 [-43.60 - 186.68]	104 13.85%

Source: Thesis analysis.

Appendix 5 Bootstrap results for Islamic culture and credit market development

Dependent variable	Reg	IPi	IFI	IEI	III	Legal origin	Rate of inflation	GDP	GDP growth	Constant	N×T R ²
Domestic credit	(1)	-0.2079** [-0.45 - -0.03]					-0.0447*** [-0.10 - -0.003]	1.0512*** [0.78 - 1.28]		-1.6492 [-5.09 - 2.35]	121 73.29%
Domestic credit to population	(2)	-0.6724*** [-1.13 - -0.23]					-0.0776*** [-0.19 - -0.03]	0.5117*** [0.01 - 0.93]		-3.4076 [-9.63 - 4.15]	121 43.17%
Domestic credit to GDP	(3)	-4.2111 [-10.34 - 0.75]					-1.3306*** [-3.07 - -0.40]		-0.2385 [-0.30 - 0.21]	62.1286*** [48.80 - 79.89]	121 18.39%
Domestic credit	(4)		-0.0408 [-0.30 - 0.07]				-0.0503** [-0.08 - -0.01]	1.0529*** [0.81 - 1.25]		-1.8644 [-4.84 - 1.93]	121 70.89%
Domestic credit to population	(5)		-0.1296 [-0.56 - 0.13]				-0.0956*** [-0.20 - -0.02]	0.5170*** [0.03 - 0.93]		-4.1072 [-10.05 - 3.14]	121 26.23%
Domestic credit to GDP	(6)		-4.1331 [-12.87 - 0.38]				-1.3341*** [-2.77 - -0.16]		-0.2299 [-0.33 - 0.18]	66.9552*** [39.29 - 102.92]	121 18.70%
Domestic credit	(7)			-0.3404*** [-0.79 - -0.13]			-0.0390* [-0.06 - -0.004]	1.1418*** [0.94 - 1.35]		-3.8484** [-7.72 - -0.23]	121 73.73%
Domestic credit to population	(8)			-0.7565*** [-1.67 - -0.19]			-0.0718** [-0.15 - -0.004]	0.7127*** [0.29 - 1.18]		-8.5709** [-16.40 - -1.13]	121 35.32%
Domestic credit to GDP	(9)			-11.6898*** [-24.55 - -3.61]			-0.9947* [-1.84 - -0.21]		-0.2399 [-0.36 - 0.12]	68.3952*** [52.39 - 83.97]	121 27.33%
Domestic credit	(10)				-0.1119*** [-0.32 - -0.02]		-0.0403* [-0.06 - -0.005]	1.0861*** [0.88 - 1.29]		-2.2517 [-5.28 - 1.12]	121 73.40%
Domestic credit to population	(11)				-0.3192*** [-0.67 - -0.14]		-0.0674** [-0.14 - -0.01]	0.6111*** [0.24 - 0.98]		-5.2306 [-10.58 - 0.43]	121 39.87%
Domestic credit to GDP	(12)				-4.0440*** [-9.19 - -0.29]		-1.0553** [-2.11 - -0.11]		-0.2745 [-0.35 - 0.11]	76.6669*** [55.31 - 104.05]	121 25.64%
Domestic credit	(13)				-0.1018** [-0.25 - -0.03]	0.1845 [-0.19 - 0.51]	-0.0401* [-0.06 - -0.003]	1.0682*** [0.83 - 1.28]		-1.9045 [-5.15 - 1.71]	121 73.65%
Domestic credit to population	(14)				-0.2911*** [-0.67 - -0.07]	0.5166 [-0.33 - 1.35]	-0.0670** [-0.14 - -0.01]	0.5609*** [0.09 - 0.99]		-4.2586 [-10.17 - 2.01]	121 41.20%
Domestic credit to GDP	(15)				-3.6280** [-7.83 - -0.96]	8.8382 [-3.39 - 21.22]	-1.0466** [-2.11 - -0.13]		-0.2544 [-0.32 - 0.13]	71.9117*** [49.61 - 104.59]	121 27.45%

Source: Thesis analysis.

Appendix 5 Bootstrap results for Islamic culture and stock market development

Dependent variable	Reg	IPi	IFI	IEI	III	Legal origin	Rate of inflation	GDP	GDP growth	Constant	N×T R ²
Market cap	(1)	-0.6130*** [-1.31 - -0.04]					-0.0120 [-0.06 - 0.05]	0.8562*** [0.22 - 1.22]		3.3837 [-2.52 - 11.62]	108 38.60%
Market cap to population	(2)	-1.0894*** [-1.85 - -0.39]					-0.0403 [-0.12 - 0.02]	0.2463 [-0.19 - 0.57]		3.4587 [-4.75 - 14.64]	108 34.73%
Market cap to GDP	(3)	-7.9756* [-14.04 - -1.04]					-0.9441** [-2.52 - -0.12]		0.1534 [-0.24 - 0.54]	67.0859*** [48.95 - 90.01]	108 10.73%
Market cap	(4)		0.1668 [-0.21 - 0.85]				-0.0368 [-0.07 - 0.02]	0.8457*** [0.03 - 1.18]		2.3852 [-2.81 - 10.56]	108 26.10%
Market cap to population	(5)		0.0486 [-0.46 - 0.95]				-0.0772* [-0.15 - -0.01]	0.2373 [-0.27 - 0.55]		2.1055 [-5.33 - 13.05]	108 6.42%
Market cap to GDP	(6)		-4.6704 [-12.63 - 5.05]				-1.0393* [-2.26 - -0.22]		0.2362 [-0.25 - 0.58]	68.2136*** [8.48 - 119.32]	108 7.01%
Market cap	(7)			-0.2370 [-0.69 - 0.05]			-0.0231 [-0.05 - 0.06]	0.9157*** [0.32 - 1.30]		1.3167 [-4.38 - 8.72]	108 26.23%
Market cap to population	(8)			-0.6747** [-1.50 - -0.04]			-0.0504 [-0.11 - 0.05]	0.4200* [0.02 - 0.73]		-1.6612 [-9.21 - 7.62]	108 11.11%
Market cap to GDP	(9)			-9.4246* [-19.30 - -0.31]			-0.7873 [-1.98 - 0.37]		0.1873 [-0.31 - 0.50]	65.8081*** [41.08 - 98.65]	108 9.28%
Market cap	(10)				-0.1921*** [-0.47 - -0.01]		-0.0129 [-0.04 - 0.07]	0.9125*** [0.36 - 1.26]		2.1233 [-3.29 - 9.54]	108 29.37%
Market cap to population	(11)				-0.4369*** [-0.82 - -0.20]		-0.0324 [-0.09 - 0.06]	0.3762* [0.03 - 0.65]		0.9478 [-5.72 - 9.62]	108 20.43%
Market cap to GDP	(12)				-5.0911** [-9.86 - -0.66]		-0.6613 [-1.79 - 0.31]		0.1705 [-0.27 - 0.48]	81.9603*** [48.68 - 127.75]	108 12.25%
Market cap	(13)				-0.1657* [-0.32 - -0.02]	0.3665 [-0.45 - 1.53]	-0.0135 [-0.04 - 0.08]	0.8791*** [0.16 - 1.26]		2.7153 [-3.12 - 11.70]	108 29.95%
Market cap to population	(14)				-0.3978*** [-0.82 - -0.01]	0.5419 [-0.62 - 2.22]	-0.0333 [-0.09 - 0.07]	0.3269 [-0.18 - 0.66]		1.8231 [-5.69 - 13.31]	108 21.28%
Market cap to GDP	(15)				-5.0659** [-10.78 - -0.04]	0.3944 [-20.11 - 20.53]	-0.6621 [-1.82 - 0.36]		0.1713 [-0.28 - 0.46]	81.7044*** [39.47 - 145.79]	108 12.25%

Source: Thesis analysis.

Appendix 5 Bootstrap results for the duality of legal system

Dependent variable	Reg	Sharia index	Legal origin	Rate of inflation	GDP	GDP growth	Constant	N×T R ²
<i>Credit Market</i>								
Domestic credit	(1)	-0.1876*** [-0.47 - -0.001]		-0.0426* [-0.06 - -0.01]	1.0629*** [0.83 - 1.29]		-1.9320 [-5.08 - 1.55]	121 72.79%
Domestic credit to population	(2)	-0.2612* [-0.55 - -0.004]		-0.0871*** [-0.20 - -0.001]	0.5275*** [0.06 - 1.00]		-4.3032 [-11.02 - 2.68]	121 28.11%
Domestic credit to GDP	(3)	-9.6017*** [-17.90 - -3.49]		-0.9802** [-1.84 - -0.04]		-0.1822 [-0.33 - 0.16]	70.5846*** [51.90 - 86.76]	121 30.94%
Domestic credit	(4)	-0.2182*** [-0.51 - -0.04]	0.4376* [0.06 - 0.90]	-0.0383 [-0.06 - 0.005]	1.0298*** [0.79 - 1.26]		-1.1806 [-4.47 - 2.40]	121 74.28%
Domestic credit to population	(5)	-0.3379** [-0.67 - -0.03]	1.0978** [0.02 - 2.31]	-0.0765** [-0.16 - -0.002]	0.4445** [0.10 - 0.79]		-2.4183 [-8.94 - 4.13]	121 34.41%
Domestic credit to GDP	(6)	-11.0216*** [-18.40 - -5.10]	18.8495*** [2.23 - 37.53]	-0.8030 [-1.44 - 0.12]		-0.1514 [-0.28 - 0.17]	67.0692*** [48.81 - 83.13]	121 39.37%
<i>Stock Market</i>								
Market capitalisation	(7)	0.1379 [-0.18 - 0.52]		-0.0381 [-0.07 - 0.02]	0.8363*** [0.15 - 1.20]		2.8593 [-2.58 - 11.22]	108 26.00%
Market capitalisation to population	(8)	0.1288 [-0.28 - 0.63]		-0.0815* [-0.17 - -0.01]	0.2243 [-0.24 - 0.57]		2.3662 [-5.65 - 13.25]	108 6.75%
Market capitalisation to GDP	(9)	-2.4285 [-10.08 - 4.25]		-1.0636* [-2.47 - -0.20]		0.2399 [-0.23 - 0.58]	59.3135*** [33.86 - 90.22]	108 6.16%
Market capitalisation	(10)	0.0927 [-0.19 - 0.45]	0.5854 [-0.28 - 1.65]	-0.0329 [-0.07 - 0.05]	0.8015*** [0.02 - 1.21]		3.6226 [-2.37 - 13.22]	108 27.59%
Market capitalisation to population	(11)	0.0389 [-0.31 - 0.49]	1.1645 [-0.21 - 2.72]	-0.0711 [-0.17 - 0.03]	0.1551 [-0.36 - 0.53]		3.8846 [-4.90 - 15.54]	108 11.02%
Market capitalisation to GDP	(12)	-3.2424 [-10.08 - 3.12]	9.5046 [-9.89 - 26.92]	-0.9813* [-2.41 - -0.03]		0.2582 [-0.22 - 0.58]	57.4615*** [31.76 - 92.78]	108 7.13%

Source: Thesis analysis.

Appendix 5 Bootstrap results for influences upon credit market development

Dependent variable	Legal origin	Strength of legal rights	Depth of credit information	Private bureau coverage	Public registry coverage	III	Sharia index	Rate of inflation	GDP	GDP growth	Constant	$N \times T$ R^2
Domestic credit	0.2757 [-0.20 - 0.77]	0.0533 [-0.16 - 0.30]	0.2554*** [0.09 - 0.44]	-0.0086 [-0.02 - 0.01]	0.0108 [-0.01 - 0.03]	-0.0860** [-0.22 - -0.01]	-0.1715* [-0.36 - -0.03]	-0.0233 [-0.04 - 0.01]	0.8901*** [0.55 - 1.22]		1.8450 [-2.00 - 6.28]	114 86.21%
Domestic credit to population	0.6082 [-0.82 - 1.91]	0.0681 [-0.54 - 0.78]	0.3683** [0.06 - 0.66]	-0.0098 [-0.04 - 0.05]	0.0131 [-0.05 - 0.08]	-0.2421** [-0.56 - -0.03]	-0.1730 [-0.52 - 0.23]	-0.0507** [-0.12 - -0.01]	0.3117 [-0.12 - 0.78]		0.6663 [-8.46 - 10.08]	114 57.48%
Domestic credit to GDP	11.9165 [-4.75 - 25.96]	0.9691 [-6.09 - 6.97]	5.8883*** [1.61 - 12.00]	-0.2252 [-0.67 - 0.33]	0.1410 [-0.75 - 0.90]	-3.0987** [-6.75 - -0.24]	-9.9444*** [-18.34 - -0.36]	-0.3321 [-0.90 - 0.41]		-0.0159 [-0.15 - 0.17]	62.9222*** [28.34 - 121.99]	114 59.64%

Source: Thesis analysis.

Appendix 5 Bootstrap results for influences upon stock market development

Dependent variable	Legal origin	Extent of disclosure index	Extent of director liability	Ease of shareholder suits	Anti-director rights index	III	Sharia index	Rate of inflation	GDP	GDP growth	Constant	$N \times T$ R^2
Market cap	0.8285 [-0.23 - 2.98]	0.0948 [-0.14 - 0.29]	-0.0114 [-0.46 - 0.21]	-0.3375* [-0.74 - -0.09]	0.5145 [-0.49 - 1.87]	-0.2065 [-0.54 - 0.11]	-0.2244 [-0.95 - 0.18]	-0.0028 [-0.03 - 0.12]	0.7008 [-0.16 - 1.20]		6.8728 [-3.57 - 26.16]	104 45.65%
Market cap to population	1.1063 [-0.06 - 3.53]	0.1901 [-0.08 - 0.44]	0.2749 [-0.29 - 0.54]	-0.6198** [-1.15 - -0.25]	1.0175 [-0.08 - 2.49]	-0.3532* [-0.71 - -0.01]	-0.6097** [-1.57 - -0.03]	-0.0085 [-0.03 - 0.14]	-0.1540 [-1.13 - 0.41]		11.2283 [-0.40 - 32.32]	104 53.98%
Market cap to GDP	8.8950 [-17.73 - 37.53]	1.0815 [-2.50 - 3.82]	5.1584 [-1.13 - 8.65]	-14.0516** [-21.93 - -3.78]	-3.5390 [-15.22 - 11.45]	-7.7242** [-16.05 - -0.99]	-12.8616** [-25.14 - -1.13]	-0.1320 [-1.02 - 1.08]		0.0381 [-0.28 - 0.24]	139.0969* [22.62 - 225.60]	104 37.69%

Source: Thesis analysis.

Appendix 6 Tobit results

Appendix 6 Tobit results for investment, legal environment and financial market development

Dependent variable: $Investment_{it}$		Tobit 1	Tobit 2	Tobit 3	Tobit 4	Tobit 5	Tobit 6
<i>'Law and Finance' theory</i>	Extent of disclosure index	2.2289*** (0.371)				1.9998*** (0.398)	2.2448*** (0.401)
	Extent of director liability index		-1.5485*** (0.332)			0.0609 (0.583)	-1.1582 (1.175)
	Ease of shareholder suits index			-2.6358*** (0.654)		-1.4208 (1.141)	-0.0201 (1.437)
	Anti-director rights index				2.6763*** (0.865)		-3.4903 (2.476)
	Rule of law	0.5496 (2.007)	7.2129*** (2.420)	10.1753*** (3.071)	-2.3271 (1.950)	6.0611** (3.090)	8.2872** (3.640)
	Legal origin	-2.2693 (1.491)	-3.4638** (1.479)	-0.0977 (1.767)	-1.2389 (1.520)	-0.4716 (2.155)	-5.0929 (4.660)
	Stock market capitalisation	1.6325** (0.696)	1.9653*** (0.719)	0.3021 (0.773)	1.4151* (0.735)	0.9505 (0.893)	1.7886 (1.424)
<i>Firm-level controls</i>	Assets	7.4222*** (0.285)	7.1921*** (0.282)	7.1539*** (0.284)	7.2617*** (0.284)	7.3417*** (0.284)	7.3563*** (0.526)
	Percentage trading	27.3576*** (2.849)	27.1698*** (2.817)	28.5792*** (2.783)	27.1827*** (2.848)	27.7881*** (2.799)	27.7582*** (5.717)
	Reward to risk	0.4952** (0.225)	0.3769 (0.327)	0.3963 (0.311)	0.4442 (0.275)	0.4484* (0.261)	0.4701 (0.308)
	Debt to assets	-0.1079*** (0.020)	-0.0975*** (0.020)	-0.1069*** (0.020)	-0.1028*** (0.020)	-0.1065*** (0.021)	-0.1052*** (0.022)
<i>Country-level controls</i>	Double taxation treaty	-2.1103 (2.481)	1.2417 (2.494)	9.9080*** (3.427)	-5.0995* (2.808)	3.7715 (4.533)	5.1617*** (1.850)
	Capital controls	-3.5450 (2.371)	1.7001 (2.346)	-0.2912 (2.328)	-5.3634* (2.878)	-3.3319 (2.575)	4.8233 (6.255)
	FOREX	-5.6943** (2.321)	1.9606 (1.660)	4.8735*** (1.847)	2.1220 (1.696)	-3.5300 (2.533)	-5.2954*** (1.815)

Dependent variable: $Investment_{it}$	Tobit 1	Tobit 2	Tobit 3	Tobit 4	Tobit 5	Tobit 6
Constant	-122.1251*** (17.962)	-116.0304*** (17.857)	-80.6494*** (19.567)	-110.0920*** (18.352)	-104.7848*** (21.563)	-118.5376*** (30.098)
Industry and Time effects	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
N	7,918	7,918	7,918	7,986	7,918	7,918
N uncensored observations	1,281	1,281	1,281	1,301	1,281	1,281
Pseudo R-squared	21.53%	21.17%	21.11%	21.08%	21.58%	21.63%
Log likelihood	-6275.58	-6303.91	-6309.21	-6401.39	-6271.46	-6267.22
F statistic	60.61***	59.29***	60.27***	58.63***	56.64***	61.90***

Source: Thesis analysis.

Appendix 6 Tobit results for investment and the interaction between investor protection and market development

Dependent variable: $Investment_{it}$		Extent of disclosure index			Anti-director rights index		
		Tobit 1	Tobit 2	Tobit 3	Tobit 4	Tobit 5	Tobit 6
<i>'Law and Finance' theory</i>	$Hi_{MktDev}Hi_{InvPro} (\beta_1)$	-1.5603 (1.269)	0.9137 (1.263)	3.6214*** (1.210)	0.2837 (1.691)	-1.6315 (1.643)	0.8198 (1.691)
	$Hi_{MktDev}Lo_{InvPro} (\beta_2)$	-4.4099** (1.759)	0.7166 (1.604)	2.3180 (1.624)	-5.7759*** (1.819)	1.6467 (2.001)	3.2215 (2.100)
	$Lo_{MktDev}Lo_{InvPro} (\beta_3)$	-17.8306*** (5.400)	-16.4538*** (5.358)	-13.7984*** (5.269)	-6.5111*** (2.512)	-7.7522*** (2.450)	-7.9571*** (2.401)
	Legal origin		-6.7341*** (1.666)	-5.4476*** (1.662)		-9.8524*** (1.965)	-7.9844*** (1.985)
	Rule of law			-7.9995*** (2.155)			-8.6296*** (2.168)
<i>Firm-level controls</i>	Size	7.2555*** (0.278)	7.4239*** (0.286)	7.3703*** (0.282)	7.4729*** (0.286)	7.5187*** (0.287)	7.4776*** (0.284)
	Percentage trading	30.0024*** (2.844)	29.3313*** (2.864)	29.3763*** (2.835)	29.8294*** (2.855)	29.1608*** (2.805)	29.3394*** (2.786)
	Return to risk	0.4997** (0.220)	0.3791 (0.382)	0.3026 (0.625)	0.4042 (0.331)	0.2571 (0.632)	0.2031 (0.775)
	Debt to assets	-0.1211*** (0.021)	-0.1256*** (0.021)	-0.1164*** (0.020)	-0.1230*** (0.021)	-0.1220*** (0.021)	-0.1137*** (0.020)
<i>Country-level controls</i>	Double taxation treaties	-16.1721*** (5.875)	-13.1608** (5.843)	-13.7522** (5.794)	-0.5031 (2.882)	-1.0067 (2.857)	-4.2451 (2.858)
	Country capital controls	-14.8781** (5.888)	-11.6339** (5.858)	-6.1759 (5.882)	-1.4689 (3.105)	-0.9609 (3.142)	1.7855 (3.243)
	FOREX	2.3102 (1.479)	4.0160*** (1.527)	6.5268*** (1.774)	1.6679 (1.440)	2.9631** (1.495)	6.0846*** (1.783)
	Free trade agreements	-0.3565 (1.197)	4.5189*** (1.583)	7.6508*** (1.649)	4.9445*** (1.678)	4.7376*** (1.645)	8.4496*** (1.687)
	Constant	-56.5345*** (7.845)	-63.0464*** (7.714)	-66.3748*** (7.736)	-75.2266*** (5.950)	-72.7590*** (5.787)	-73.9505*** (5.901)
	Industry and time effects	Yes	Yes	Yes	Yes	Yes	Yes

			Extent of disclosure index		
Dependent variable: <i>Investment_{it}</i>			Tobit 1	Tobit 2	Tobit 3
	N		7,986	7,986	7,986
	N uncensored observations		1,301	1,301	1,301
	Pseudo R-squared		20.97%	21.34%	21.52%
	Log likelihood		-6410.82	-6380.86	-6366.11
	F statistic		61.15***	58.18***	56.07***
Wald test	$\beta_1=\beta_2$	Chi-squared	4.44**	0.03	1.09
	$\beta_1=\beta_3$	Chi-squared	9.65***	10.93***	11.25***
	$\beta_2=\beta_3$	Chi-squared	6.30***	10.20***	9.21***

Anti-director rights index		
Tobit 4	Tobit 5	Tobit 6
7,986	7,986	7,986
1,301	1,301	1,301
21.19%	21.38%	21.60%
-6392.96	-6377.64	-6359.87
61.09***	58.67***	56.14***
11.35***	2.20*	1.21
9.47***	7.11***	16.73***
0.12	19.20***	26.33***

Source: Thesis analysis.

Appendix 6 Tobit results for investment and accounting standards selection

Dependent variable: $Investment_{it}$		Tobit 1	Tobit 2	Tobit 3	Tobit 4	Tobit 5	Tobit 6
<i>Firm discretionary policy</i>	IFRS	9.5782*** (2.062)	2.8876* (1.679)				
	Extent of disclosure index			2.5521*** (0.572)	3.2080*** (0.528)		
	IFRS_disclosure			0.9768*** (0.246)	0.1759 (0.188)		
	IFRS_Hi Disclosure (β_1)					12.8205*** (3.300)	6.7888** (2.889)
	No IFRS-Hi Disclosure(β_2)					2.0885 (1.811)	5.2168*** (1.754)
278 <i>Firm-level controls</i>	Size		8.4474*** (0.526)		8.6013*** (0.523)		8.4840*** (0.529)
	Percentage trading	24.9302*** (4.853)	13.4903*** (3.949)	21.9847*** (4.803)	9.8463** (3.933)	23.8814*** (4.987)	11.9685*** (4.031)
	Return to risk	0.4559 (1.642)	0.1323 (0.149)	1.3122 (2.017)	0.4514 (1.412)	0.3937 (1.239)	0.1807 (0.172)
	Debt to assets	-0.0671* (0.036)	-0.1333*** (0.036)	-0.0630* (0.035)	-0.1375*** (0.035)	-0.0668* (0.037)	-0.1305*** (0.036)
	FOREX	2.2499 (2.305)	6.1738*** (1.818)	-6.6998** (2.971)	-4.7263* (2.581)	2.7501 (2.249)	5.6250*** (1.772)
<i>Country-level controls</i>	Free trade agreement	7.5355** (3.397)	2.8536 (2.635)	7.0322** (3.248)	1.1539 (2.431)	6.1322* (3.560)	2.0903 (2.745)
	Constant	-28.5439** (13.977)	-66.2872*** (8.331)	-32.4382** (13.102)	-74.6753*** (8.982)	-27.4189** (13.899)	-67.4039*** (8.346)
	Industry and time effects	Yes	Yes	Yes	Yes	Yes	Yes
	N	2,559	2,559	2,559	2,559	2,435	2,435
	N uncensored observations	546	546	546	546	543	543
	Pseudo R-squared	4.38%	15.64%	4.80%	16.94%	4.19%	15.52%
	Log likelihood	-3097.57	-2733.00	-3084.05	-2690.86	-3059.07	-2697.48
	F statistic	9.61***	30.23***	9.20***	27.60***	7.72***	26.30***
Wald test $\beta_1=\beta_2$		Chi-squared				14.76***	0.47

Source: Thesis analysis.

Appendix 6 Tobit results for investment and auditor selection

Dependent variable: $Investment_{it}$		Tobit 1	Tobit 2	Tobit 3	Tobit 4	Tobit 5	Tobit 6	Tobit 7	Tobit 8
<i>Firm discretionary policy</i>	Big-four auditor	0.7344*** (0.087)	0.0198 (0.076)						
	Extent of disclosure index			0.0587* (0.033)	0.1658*** (0.027)				
	Big-four_disclosure			0.1039*** (0.015)	-0.0069 (0.012)				
	Big-four_Hi disclosure (β_1)					0.5203*** (0.113)	0.2711*** (0.092)		
	Nobig-four_Hi disclosure (β_2)					-0.2567* (0.131)	0.1512 (0.103)		
	Big-four_Lo disclosure (β_3)							0.0623 (0.122)	-0.2692*** (0.098)
	Nobig-four_Lo disclosure (β_4)							-0.7208*** (0.143)	-0.1698 (0.111)
<i>Firm-level controls</i>	Size		0.5063*** (0.021)		0.5175*** (0.021)		0.5022*** (0.021)		0.5130*** (0.021)
	Percentage trading	3.5205*** (0.239)	2.2326*** (0.204)	3.4403*** (0.239)	2.1397*** (0.206)	(0.247)	2.2275*** (0.214)	3.4911*** (0.251)	2.2098*** (0.214)
	Return to risk	0.0548*** (0.020)	0.0325* (0.020)	0.0534*** (0.020)	0.0302 (0.024)	0.2336** (0.097)	0.0547 (0.080)	0.2822*** (0.099)	0.0594 (0.080)
	Debt to assets	-0.0013 (0.001)	-0.0086*** (0.002)	-0.0009 (0.001)	-0.0081*** (0.002)	-0.0001 (0.001)	-0.0078*** (0.002)	-0.0000 (0.000)	-0.0079*** (0.002)
<i>Country-level controls</i>	FOREX	-0.3601*** (0.091)	0.0624 (0.077)	-0.6729*** (0.119)	-0.3492*** (0.098)	-0.5215*** (0.107)	-0.1261 (0.086)	-0.5145*** (0.108)	-0.1167 (0.086)
	Free trade agreements	-0.2978*** (0.090)	0.1168 (0.076)	-0.3543*** (0.091)	0.0699 (0.076)	-0.3742*** (0.093)	0.0917 (0.078)	-0.1699* (0.094)	0.1137 (0.075)
	Constant	-3.6080*** (0.377)	-5.4007*** (0.385)	-3.6150*** (0.391)	-6.1232*** (0.419)	-2.9958*** (0.376)	-5.4068*** (0.384)	-2.8913*** (0.408)	-5.2210*** (0.393)
	Industry and time effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	N	7,122	7,122	7,072	7,072	6,584	6,584	6,584	6,584
	N uncensored observations	1,154	1,154	1,134	1,134	1,068	1,068	1,068	1,068
	Pseudo R-squared	18.31%	34.86%	18.18%	35.93%	18.07%	35.83%	17.43%	35.80%
	Log likelihood	-3392.98	-2705.79	-3350.81	-2624.02	-3148.49	-2465.93	-3173.16	-2467.15
	F statistic	34.3584***	61.1654***	33.0663***	58.8683***	31.4780***	56.16***	29.93***	56.01***
Wald test $\beta_1=\beta_2$		Chi-squared				43.89***	1.66*	28.76***	0.70

Source: Thesis analysis.

BIBLIOGRAPHY

- Abraham, A., Seyyed, F. J., & Alsakran, S. A. (2002). Testing the random walk behavior and efficiency of the Gulf stock markets. *Financial Review*, 37(3), 469-480.
- Abu Loghod, H. S. (2008). *Do Islamic banks perform better than conventional banks? Evidence from Gulf Cooperation Council countries*. API Working Paper Series No. 1011. Arab Planning Institute. Kuwait.
- Abumustafa, N. I., & Al-Abduljader, S. T. (2011). Investigating the implications of derivative securities in emerging stock markets: The Islamic perspective. *Journal of Derivatives and Hedge Funds*, 17(2), 115-121.
- Acemoglu, D., Johnson, S., & Robinson, J. A. (2001). The colonial origins of comparative development: An empirical investigation. *American Economic Review*, 91(5), 1369-1401.
- Acemoglu, D., Johnson, S., & Robinson, J. A. (2002). Reversal of fortune: Geography and institutions in the making of the modern world income distribution. *Quarterly Journal of Economics*, 117(4), 1231-1294.
- Achilov, D. (2010). *Can Islam and democracy coexist? A cross-national analysis of Islamic institutions in the Muslim world*. (Doctoral dissertation), University of Arizona, USA.
- Adler, M., & Dumas, B. (1983). International portfolio choice and corporation finance: A synthesis. *Journal of Finance*, 38(3), 925-984.
- African Development Bank. (2012). *Capital market development in North Africa: Current status and future potential*. Retrieved from <http://www.afdb.org/en/documents/document/economic-brief-capital-market-development-in-north-africa-current-status-and-future-potential-31220/>
- Aggarwal, R., Erel, I., Ferreira, M., & Matos, P. (2011). Does governance travel around the world? Evidence from institutional investors. *Journal of Financial Economics*, 100(1), 154-181.
- Aggarwal, R., Kearney, C., & Lucey, B. (2012). Gravity and culture in foreign portfolio investment. *Journal of Banking and Finance*, 36(2), 525-538.
- Aggarwal, R., Klapper, L., & Wysocki, P. D. (2005). Portfolio preferences of foreign institutional investors. *Journal of Banking and Finance*, 29(12), 2919-2946.
- Ahearne, A. G., Grier, W. L., & Warnock, F. E. (2004). Information costs and home bias: An analysis of US holdings of foreign equities. *Journal of International Economics*, 62(2), 313-336.
- Ahern, K. R., Daminelli, D., & Fracassi, C. (2015). Lost in translation? The effect of cultural values on mergers around the world. *Journal of Financial Economics*, 117(1), 165-189.
- Ahmed, A. D., & Mmolainyane, K. K. (2014). Financial integration, capital market development and economic performance: Empirical evidence from Botswana. *Economic Modelling*, 42, 1-14.
- Ahmed, H. (2006). Islamic Law, adaptability and financial development. *Islamic Economic Studies*, 13(2), 79-101.
- Ahmed, S., & Zlate, A. (2014). Capital flows to emerging market economies: A brave new world? *Journal of International Money and Finance*, 48, 221-248.
- Al-Rimawi, L. M. (2012). *Raising capital on Arab equity markets: Legal and juridical aspects of Arab securities regulation*. Netherlands: Kulwer Law International.
- Al-Suwaidi, A. (1993). Developments of the legal systems of the Gulf Arab States. *Arab Law Quarterly*, 8(4), 289-301.
- Albouy, D. Y. (2012). The colonial origins of comparative development: An empirical investigation: Comment. *American Economic Review*, 102(6), 3059-3076.
- Ang, J. B. (2013). Are modern financial systems shaped by state antiquity? *Journal of Banking and Finance*, 37(11), 4038-4058.
- Anwar, S., & Sun, S. (2015). Can the presence of foreign investment affect the capital structure of domestic firms? *Journal of Corporate Finance*, 30, 32-43.

- Badr, G. M. (1978). Islamic Law: Its relation to other legal systems. *American Journal of Comparative Law*, 26(2), 187-198.
- Baha-Eldin, Z. A. (1996). Banking regulation and supervision in Egypt: The view from a developing country. In J. J. Norton (Ed.), *Emerging financial markets and the role of international financial organizations* (Vol. 4, pp. 309-331). London: UK: Kluwer Law International.
- Bali, A. U. (2011). Perils of judicial independence: Constitutional transition and the Turkish example. *Pacific Rim Law Policy Journal*, 21(1), 235-320.
- Ballantyne, W. M. (1985). The states of the GCC: Sources of law, the Shari'a and the extent to which it applies. *Arab Law Quarterly*, 1(1), 3-18.
- Baltagi, B. H. (2008). *Econometric analysis of panel data*. Chichester, UK: John Wiley & Sons.
- Barton, J. A. N. (2005). Who cares about auditor reputation? *Contemporary Accounting Research*, 22(3), 549-586.
- Beck, N. (2001). Time-series-cross-section data: What have we learned in the past few years? *Annual Review of Political Science*, 4(1), 271-293.
- Beck, N., & Katz, J. N. (1995). What to do (and not to do) with time-series cross-section data. *American Political Science Review*, 89(3), 634-647.
- Beck, T., Demirgüç-Kunt, A., & Levine, R. (2000). A new database on the structure and development of the financial sector. *World Bank Economic Review*, 14(3), 597-605.
- Beck, T., Demirgüç-Kunt, A., & Levine, R. (2001). *Law, politics, and finance*. Policy Research Working Paper No 2585. Development Research Group. World Bank.
- Beck, T., Demirgüç-Kunt, A., & Levine, R. (2003a). Law and finance: Why does legal origin matter? *Journal of Comparative Economics*, 31(4), 653-675.
- Beck, T., Demirgüç-Kunt, A., & Levine, R. (2003b). Law, endowments, and finance. *Journal of Financial Economics*, 70(2), 137-181.
- Beck, T., Demirgüç-Kunt, A., & Levine, R. (2005). Law and firms' access to finance. *American Law and Economics Review*, 7(1), 211-252.
- Beck, T., & Levine, R. (2002). Industry growth and capital allocation: Does having a market- or bank-based system matter? *Journal of Financial Economics*, 64(2), 147-180.
- Beck, T., & Levine, R. (2004). Stock markets, banks, and growth: Panel evidence. *Journal of Banking & Finance*, 28(3), 423-442.
- Beck, T., Levine, R., & Loayza, N. (2000). Finance and the sources of growth. *Journal of Financial Economics*, 58(1-2), 261-300.
- Bekaert, G. (1995). Market integration and investment barriers in emerging equity markets. *World Bank Economic Review*, 9(1), 75-107.
- Bekaert, G., & Harvey, C. R. (2003). Emerging markets finance. *Journal of Empirical Finance*, 10(1-2), 3-55.
- Beneish, M. D., Miller, B. P., & Yohn, T. L. (2010). *IFRS adoption and cross-border investment in equity and debt markets*. Indiana University. Bloomington, IN.
- Beneish, M. D., Miller, B. P., & Yohn, T. L. (2012). *The impact of financial reporting on equity versus debt markets: Macroeconomic evidence from mandatory IFRS adoption*. Indiana University. Bloomington, IN.
- Beneish, M. D., & Yohn, T. L. (2008). Information friction and investor home bias: A perspective on the effect of global IFRS adoption on the extent of equity home bias. *Journal of Accounting and Public Policy*, 27(6), 433-443.
- Berkel, B. (2007). Institutional determinants of international equity portfolios - A country-level analysis. *B.E. Journal of Macroeconomics: Topics in Macroeconomics*, 7(1), 1-31.
- Berrill, J., & Kearney, C. (2013). Investing in emerging and developing markets. In H. K. Baker & L. A. Riddick (Eds.), *International finance : a survey* (pp. 331-349). Oxford; New York: Oxford University Press.
- Bertin, W. J., & Prather, L. (2011). *What do emerging market mutual funds offer domestic US investors?* Bond University. Gold Coast, QLD.

- Bertrand, M., Duflo, E., & Mullainathan, S. (2004). How much should we trust differences-in-differences estimates? *Quarterly Journal of Economics*, 119(1), 249-275.
- Beugelsdijk, S., & Frijns, B. (2010). A cultural explanation of the foreign bias in international asset allocation. *Journal of Banking and Finance*, 34(9), 2121-2131.
- Beugelsdijk, S., & Maseland, R. K. J. (2011). *Culture in economics: History, methodological reflections, and contemporary applications*. New York; Cambridge, UK: Cambridge University Press.
- Bloomberg. (2015). Online: Bloomberg Professional.
- Blue Current Global Dividend Fund. (2014). Prospectus. Retrieved from http://www.bluecurrentfunds.com/Data/Sites/28/docs/Blue_Current_Prospectus.pdf
- Bohn, H., & Tesar, L. L. (1996). U.S. equity investment in foreign markets: Portfolio rebalancing or return chasing? *American Economic Review*, 86(2), 77-81.
- Bradshaw, M. T., Bushee, B. J., & Miller, G. S. (2004). Accounting choice, home bias, and U.S. investment in non-U.S. firms. *Journal of Accounting Research*, 42(5), 795-841.
- Braendle, U. C. (2006). Shareholder protection in the USA and Germany - "Law and Finance" revisited. *German Law Journal*, 7(3), 257-278.
- Braendle, U. C. (2012). *Corporate governance in the Middle East –another Arabic Spring? A focus on the financial sector*. Paper presented at the Improving financial institutions: The proper balance between regulation and governance, Helsinki, Finland.
- Branson, D. M. (2001). The very uncertain prospect of "global" convergence in corporate governance. *Cornell International Law Journal*, 34(2), 321-362.
- Breen, R. (1996). The Tobit model for censored data *Regression Models* (pp. 12-34). Thousand Oaks, CA: SAGE Publications, Inc.
- Brennan, M. J., & Cao, H. H. (1997). International portfolio investment flows. *Journal of Finance*, 52(5), 1851-1880.
- Brennan, M. J., Henry Cao, H., Strong, N., & Xu, X. (2005). The dynamics of international equity market expectations. *Journal of Financial Economics*, 77(2), 257-288.
- Bruno, V., & Claessens, S. (2010). Corporate governance and regulation: Can there be too much of a good thing? *Journal of Financial Intermediation*, 19(4), 461-482.
- Bushee, B. J., Carter, M. E., & Gerakos, J. (2014). Institutional investor preferences for corporate governance mechanisms. *Journal of Management Accounting Research*, 26(2), 123-149.
- Cameron, A. C., & Trivedi, P. K. (2010). *Microeconometrics using Stata*. College Station, TX: Stata Press.
- Carballo, A. (2007). The law of the Dubai International Financial Centre: Common law oasis or mirage within the UAE? *Arab Law Quarterly*, 21(1), 91-104.
- Celiker, U., Chowdhury, J., & Sonaer, G. (2015). Do mutual funds herd in industries? *Journal of Banking and Finance*, 52, 1-16.
- Chan, K., & Covrig, V. (2012). What determines mutual fund trading in foreign stocks? *Journal of International Money and Finance*, 31(4), 793-817.
- Chan, K., Covrig, V., & Ng, L. (2005). What determines the domestic bias and foreign bias? Evidence from mutual fund equity allocations worldwide. *Journal of Finance*, 60(3), 1495-1534.
- Chang, X., Dasgupta, S., & Hilary, G. (2009). The effect of auditor quality on financing decisions. *Accounting Review*, 84(4), 1085-1117.
- Cho, S.-S., El Ghouli, S., Guedhami, O., & Suh, J. (2014). Creditor rights and capital structure: Evidence from international data. *Journal of Corporate Finance*, 25, 40-60.
- Chou, J., Zaiats, N., & Zhang, B. (2014). Does auditor choice matter to foreign investors? Evidence from foreign mutual funds worldwide. *Journal of Banking and Finance*, 46, 1-20.
- Claessens, S., & Laeven, L. (2003). Financial development, property rights, and growth. *Journal of Finance*, 58(6), 2401-2436.

- Coffee, J. C. (2001). The rise of dispersed ownership: The roles of law and the state in the separation of ownership and control. *Yale Law Journal*, 111(1), 1-82.
- Colón, J. C. (2011). Choice of law and Islamic finance. *Texas International Law Journal*, 46(2), 411-435.
- Cools, S. (2005). The real difference in corporate law between the United States and continental Europe: Distribution of powers. *Delaware Journal of Corporate Law*, 30(3), 697-766.
- Covring, V. M., Defond, M. L., & Hung, M. (2007). Home bias, foreign mutual fund holdings, and the voluntary adoption of international accounting standards. *Journal of Accounting Research*, 45(1), 41-70.
- Dahlquist, M., Pinkowitz, L., Stulz, R. M., & Williamson, R. (2003). Corporate governance and the home bias. *Journal of Financial and Quantitative Analysis*, 38(1), 87-110.
- Dam, K. W. (2006). *The law growth nexus: The rule of law and economic development*. Washington: Brookings Institution Press.
- Daude, C., & Fratzscher, M. (2008). The pecking order of cross-border investment. *Journal of International Economics*, 74(1), 94-119.
- DeAngelo, L. E. (1981a). Auditor independence, 'low balling', and disclosure regulation. *Journal of Accounting and Economics*, 3(2), 113-127.
- DeAngelo, L. E. (1981b). Auditor size and audit quality. *Journal of Accounting and Economics*, 3(3), 183-199.
- DeFond, M., Hu, X., Hung, M., & Li, S. (2011). The impact of mandatory IFRS adoption on foreign mutual fund ownership: The role of comparability. *Journal of Accounting and Economics*, 51(3), 240-258.
- Demirguc-Kunt, A., & Levine, R. (1999). *Bank-based and market-based financial systems: Cross-country comparisons*. Policy Research Working Paper Series No. 2143. World Bank.
- Demirgüç-Kunt, A., & Maksimovic, V. (2002). Funding growth in bank-based and market-based financial systems: Evidence from firm level data. *Journal of Financial Economics*, 65, 337-363.
- Diyarbakirlioglu, E. (2011). *The determinants of international equity holdings: information vs. culture*. Faculty of Economics and Administrative Sciences. Galatasaray University. Istanbul.
- Djankov, S., Hart, O., McLiesh, C., & Shleifer, A. (2008). Debt enforcement around the world. *Journal of Political Economy*, 116(6), 1105-1149.
- Djankov, S., La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (2003). Courts. *Quarterly Journal of Economics*, 118(2), 453-517.
- Djankov, S., La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (2008). The law and economics of self-dealing. *Journal of Financial Economics*, 88(3), 430-465.
- Djankov, S., McLiesh, C., & Shleifer, A. (2007). Private credit in 129 countries. *Journal of Financial Economics*, 84(2), 299-329.
- Doidge, C., Andrew Karolyi, G., & Stulz, R. M. (2007). Why do countries matter so much for corporate governance? *Journal of Financial Economics*, 86(1), 1-39.
- Driscoll, J., & Kraay, A. C. (1998). Consistent covariance matrix estimation with spatially dependent data. *Review of Economics and Statistics*, 80(4), 549-560.
- Dubai International Financial Centre. (2012). Laws and regulations. Retrieved from <http://www.difc.ae/laws-regulations>
- Efron, B. (1981). Nonparametric standard errors and confidence intervals. *Canadian Journal of Statistics*, 9(2), 139-158.
- Efron, B., & Tibshirani, R. (1993). *An introduction to the bootstrap*. New York: Chapman & Hall.
- Elsaman, R. S. (2011). Factors to be considered before arbitrating in the Arab Middle East: Examples of religious and legislative constraints. *International Commercial Arbitration Brief*, 1(2), 8-14.

- Enders, W. (2004). *Applied econometric time series* (2nd ed.). Hoboken, N.J. ; Great Britain: J. Wiley.
- Esmaeili, H. (2011). The nature and development of law in Islam and the rule of law challenge in the Middle East and the Muslim world. *Connecticut Journal of International Law*, 26(2), 329-366.
- Farazi, S., Feyen, E., & Rocha, R. (2011). *Bank ownership and performance in the Middle East and North Africa region*. Policy Research Working Paper 5620. World Bank.
- Farooq, O., Derrabi, M., & Naciri, M. (2013). Corporate governance and liquidity: pre- and post-crisis analysis from the MENA region. *Review of Middle East Economics and Finance*, 8(3), 1-19.
- Ferreira, M. A., & Matos, P. (2008). The colors of investors' money: The role of institutional investors around the world. *Journal of Financial Economics*, 88(3), 499-533.
- Florou, A., & Pope, P. F. (2012). Mandatory IFRS adoption and institutional investment decisions. *Accounting Review*, 87(6), 1993-2025.
- Foster, N. H. D. (2010). Islamic perspectives on the law of business organisations I: An overview of the classical Sharia and a brief comparison of the Sharia regimes with Western-style law. *European Business Organization Law Review*, 11(1), 3-34.
- Francis, J. R., Khurana, I. K., & Pereira, R. (2001). *Investor protection laws, accounting and auditing around the world*. University of Missouri-Columbia. Columbia, MO.
- French, K. R., & Poterba, J. M. (1991). Investor diversification and international equity markets. *American Economic Review*, 81(2), 222-226.
- Fu, V. K., Winship, C., & Mare, R. D. (2004). Sample selection bias models. In M. H. a. A. Bryman (Ed.), *Handbook of Data Analysis* (pp. 408-431). London, England: SAGE Publications, Ltd.
- Gavin, J. (2011). Reaching out to institutions. *MEED: Middle East Economic Digest*, 55(13), 38-39.
- Gelos, R. G., & Wei, S.-J. (2005). Transparency and international portfolio holdings. *Journal of Finance*, 60(6), 2987-3020.
- Gemmell, A. J. (2006). Commercial arbitration in the Islamic Middle East. *Santa Clara Journal of International Law*, 5(1), 169-193.
- Giannetti, M., & Koskinen, Y. (2010). Investor protection, equity returns, and financial globalization. *Journal of Financial and Quantitative Analysis*, 45(1), 135-168.
- Giannetti, M., & Simonov, A. (2006). Which investors fear expropriation? Evidence from investors' portfolio choices. *Journal of Finance*, 61(3), 1507-1547.
- Giofré, M. (2014). Domestic investor protection and foreign portfolio investment. *Journal of Banking and Finance*, 46, 355-371.
- Girard, E., Omran, M., & Zaher, T. (2003). On risk and return in MENA capital markets. *International Journal of Business*, 8(3), 285-314.
- Glaeser, E. L., & Shleifer, A. (2002). Legal origins. *Quarterly Journal of Economics*, 117(4), 1193-1229.
- Goldschmidt, A., & Davidson, L. (2012). *A concise history of the Middle East*. Boulder, CO: Westview Press.
- Gordon, L. A., Loeb, M. P., & Zhu, W. (2012). The impact of IFRS adoption on foreign direct investment. *Journal of Accounting and Public Policy*, 31(4), 374-398.
- Gould, W., & Pitblado, J. (2010). How large should the bootstrapped samples be relative to the total number of cases in the dataset? *Stata FAQ*.
- Graff, M. (2008). Law and finance: Common law and civil law countries compared: An Empirical critique. *Economica*, 75(297), 60-83.
- Greene, W. H. (2012). *Econometric analysis* (7th ed.). Boston ; London: Prentice Hall.
- Grinblatt, M., & Keloharju, M. (2000). The investment behavior and performance of various investor types: a study of Finland's unique data set. *Journal of Financial Economics*, 55(1), 43-67.

- Gupta, M., Ogrimah, O., Prakash, P., & Rangan, N. K. (2011). Investor protections and their impact on capital markets. In Alireza Tourani-Red & C. Ingley (Eds.), *Handbook on emerging issues in corporate governance* (pp. 9-22). Singapore: World Scientific Publishing.
- Habib, A. (2007). Legal environment, accounting information, auditing and information intermediaries: Survey of the empirical literature. *Journal of Accounting Literature*, 26, 1-75.
- Hamberg, M., Mavruk, T., & Sjögren, S. (2013). Investment allocation decisions, home bias and the mandatory IFRS adoption. *Journal of International Money and Finance*, 36, 107-130.
- Hamoudi, H. A. (2011). Surprising irrelevance of Islamic bankruptcy. *American Bankruptcy Institute Law Review*, 19(1), 505-522.
- Haselmann, R., Pistor, K., & Vig, V. (2010). How law affects lending. *Review of Financial Studies*, 23(2), 549-580.
- Hayek, F. A. v. (1960). *The constitution of liberty*. USA: University of Chicago Press.
- Heritage Foundation. (2012). Economic freedom: Global and regional patterns. Retrieved from <http://www.heritage.org/index/book/chapter-2>
- Hermalin, B. E., & Weisbach, M. S. (2003). Boards of directors as an endogenously determined institution: A survey of the economic literature. *Economic Policy Review*, 9(1), 7-26.
- Hill, E. (1988). Al-Sanhuri and Islamic law: The place and significance of Islamic law in the life and work of 'Abd al-Razzaq Ahmad al-Sanhuri, Egyptian jurist and scholar, 1895-1971. *Arab Law Quarterly*, 3(1), 33-64.
- Hill, R. C., Griffiths, W. E., & Lim, G. C. (2008). *Principles of econometrics*. Hoboken, NJ: Wiley.
- Hoechle, D. (2007). Robust standard errors for panel regressions with cross-sectional dependence. *Stata Journal*, 7(3), 281-312.
- Hong, H., & Kacperczyk, M. (2009). The price of sin: The effects of social norms on markets. *Journal of Financial Economics*, 93(1), 15-36.
- Horowitz, J. L. (1997). Bootstrap methods in econometrics: Theory and numerical performance. In David M. Kreps & Kenneth F. Wallis (Eds.), *Advances in Economics and Econometrics: Theory and Applications* (pp. 188-222). Cambridge: Cambridge University Press.
- Horowitz, J. L. (2001). The bootstrap. In J. J. Heckman & E. Leamer (Eds.), *Handbook of Econometrics* (Vol. 5, pp. 3159-3228). Amsterdam: North Holland.
- Howard, D. (2007). Map of the Middle East and North Africa. Retrieved from http://mabryonline.org/blogs/howard/archives/n_africa_mid_east_pol_95.jpg
- Ibbotson, R. G., & Kaplan, P. D. (2000). Does asset allocation policy explain 40, 90, or 100 percent of performance? *Financial Analysts Journal*, 56(1), 26-33.
- Im, K. S., Pesaran, M. H., & Shin, Y. (2003). Testing for unit roots in heterogenous panels. *Journal of Econometrics*, 115(1), 53-74.
- Internal Revenue Service. (2014). United States income tax treaties. Retrieved from <http://www.irs.gov>
- International Labour Organisation. (2011). Challenges in the Arab world: An ILO response. Retrieved from <http://www.ilo.org/public/english/bureau/pardev/download/development/mena/mena-strategy.pdf>
- International Monetary Fund. (2010). *Regional economic outlook: Middle East and Central Asia*. Retrieved from <https://www.imf.org/external/pubs/ft/reo/2010/mcd/eng/mreo1024.htm>
- International Monetary Fund. (2013). Coordinated Portfolio Investment Survey Retrieved from <http://cpis.imf.org/> <http://cpis.imf.org/>
- International Monetary Fund. (2014). World Economic Outlook Database Retrieved from <http://www.imf.org> <http://www.imf.org>

- International Monetary Fund. (several editions 2007-2012). *Annual Report on Exchange Arrangements and Exchange Restrictions*. Retrieved from <http://www.elibrary.imf.org/page/AREAER/www.imfareaer.org>
- Investment Company Institute. (2014). 2014 Investment Company Fact Book. *Chapter 1: Overview of U.S.-Registered Investment Companies*. Retrieved from <http://www.icifactbook.org/>
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305-360.
- Kaminsky, G. L., Lyons, R. K., & Schmukler, S. L. (2001). Mutual fund investment in emerging markets: An overview. *World Bank Economic Review*, 15(2), 315-340.
- Kang, J.-K., & Stulz, R. M. (1997). Why is there a home bias? An analysis of foreign portfolio equity ownership in Japan. *Journal of Financial Economics*, 46(1), 3-28.
- Kar, M., Nazlıoğlu, Ş., & Ağır, H. (2011). Financial development and economic growth nexus in the MENA countries: Bootstrap panel Granger causality analysis. *Economic Modelling*, 28(1-2), 685-693.
- Kaufmann, D., Kraay, A., & Mastruzzi, M. (2013). *Worldwide governance indicators*. Retrieved from: <http://info.worldbank.org/governance/wgi/index.aspx#home>
- Ke, D., Ng, L., & Wang, Q. (2010). Home bias in foreign investment decisions. *Journal of International Business Studies*, 41(6), 960-979.
- Kern, S. (2012). *GCC financial markets: Long-term prospects for finance in the Gulf region*. Retrieved from https://www.dbresearch.com/PROD/DBR_INTERNET_EN-PROD/PROD0000000000296909/GCC+financial+markets%3A+Long-term+prospects+for+finance+in+the+Gulf+region.pdf
- Kho, B.-C., Stulz, R. M., & Warnock, F. E. (2009). Financial globalization, governance, and the evolution of the home bias. *Journal of Accounting Research*, 47(2), 597-635.
- Kilborn, J. J. (2011). Foundations of forgiveness in Islamic bankruptcy law: Sources, methodology, diversity. *American Bankruptcy Law Journal*, 85, 323-362.
- Kim, S.-J., & Wu, E. (2008). Sovereign credit ratings, capital flows and financial sector development in emerging markets. *Emerging Markets Review*, 9(1), 17-39.
- Kmenta, J. (1986). *Elements of Econometrics*. New York: MacMillan.
- Koldertsova, A. (2011). The second corporate governance wave in the Middle East and North Africa. *OECD Journal: Financial Market Trends*, 2010(2).
- Koraytem, T. (2000). The Islamic nature of the Saudi regulations for companies. *Arab Law Quarterly*, 15(1), 63-69.
- Kortas, M., L'Her, J.-F., & Roberge, M. (2005). Country selection of emerging equity markets: benefits from country attribute diversification. *Emerging Markets Review*, 6(1), 1-19.
- Kouamé, A. T. (2008). *Impact of the international financial crisis on MENA capital markets*. Retrieved from <http://siteresources.worldbank.org/INTMENA/Resources/BeirutForumonImpactCrisispresentation.pdf>
- Kumar, A., Page, J. K., & Spalt, O. G. (2011). Religious beliefs, gambling attitudes, and financial market outcomes. *Journal of Financial Economics*, 102(3), 671-708.
- Kuran, T. (2005). The logic of financial Westernization in the Middle East. *Journal of Economic Behavior and Organization*, 56(4), 593-615.
- La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (1999). Corporate ownership around the world. *Journal of Finance*, 54(2), 471-517.
- La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (2002). Government ownership of banks. *Journal of Finance*, 57(1), 265-301.
- La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (2006). What works in securities laws? *Journal of Finance*, 61(1), 1-32.
- La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (2008). The economic consequences of legal origins. *Journal of Economic Literature*, 46(2), 285-332.

- La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (2013). Law and finance after a decade of research. In M. H. George M. Constantinides & M. S. Rene (Eds.), *Handbook of the Economics of Finance* (Vol. 2, Part A, pp. 425-491): Elsevier.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. (1997). Legal determinants of external finance. *Journal of Finance*, 52(3), 1131-1150.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. (1998). Law and finance. *Journal of Political Economy*, 106(6), 1113-1155.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. (1999). The quality of government. *Journal of Law, Economics, & Organization*, 15(1), 222-279.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. (2000). Investor protection and corporate governance. *Journal of Financial Economics*, 58, 3-27.
- Lagoarde-Segot, T., & Lucey, B. M. (2007). International portfolio diversification: Is there a role for the Middle East and North Africa? *Journal of Multinational Financial Management*, 17(5), 401-416.
- Lagoarde-Segot, T., & Lucey, B. M. (2008). Efficiency in emerging markets evidence from the MENA region. *Journal of International Financial Markets, Institutions and Money*, 18(1), 94-105.
- Lane, P. R., & Milesi-Ferretti, G. M. (2008). International investment patterns. *Review of Economics and Statistics*, 90(3), 538-549.
- Lee, H., Staats, J. L., & Biglaiser, G. (2012). The importance of legal systems for portfolio investment in the developing world. *International Area Studies Review*, 15(4), 339-358.
- Lemi, A. (2003). *Foreign direct investment in developing countries: Uncertainty, trade and welfare*. (Doctoral dissertation), Western Michigan University, USA.
- Leuz, C., Lins, K. V., & Warnock, F. E. (2009). Do foreigners invest less in poorly governed firms? *Review of Financial Studies*, 22(8), 3245-3285.
- Levine, R. (1998). The legal environment, banks, and long-run economic growth. *Journal of Money, Credit, and Banking*, 30(3), 596-620.
- Levine, R., Loayza, N., & Beck, T. (2000). Financial intermediation and growth: Causality and causes. *Journal of Monetary Economics*, 46(1), 31-77.
- Licht, A. N. (2001). The mother of all path dependencies: Toward a cross-cultural theory of corporate governance systems. *Delaware Journal of Corporate Law*, 26(1), 147-205.
- Licht, A. N., Goldschmidt, C., & Schwartz, S. H. (2005). Culture, law, and corporate governance. *International Review of Law and Economics*, 25(2), 229-255.
- Licht, A. N., Goldschmidt, C., & Schwartz, S. H. (2007). Culture rules: The foundations of the rule of law and other norms of governance. *Journal of Comparative Economics*, 35(4), 659-688.
- Lintner, J. (1965). The valuation of risk assets and the selection of risky investments in stock portfolios and capital budgets. *Review of Economics and Statistics*, 47(1), 13-37.
- Lombardi, C. B., & Feener, R. M. (2012). Why study Islamic legal professionals? *Pacific Rim Law and Policy Journal*, 21(1), 1-12.
- Madeddu, O. (2010). *The status of information sharing and credit reporting infrastructure in the Middle East and North Africa region*. Retrieved from http://siteresources.worldbank.org/INTMNAREGTOPPOVRED/Resources/MENAFflagshipCreditReporting12_20_10.pdf
- Mahmoud, A. S. (2005). *Report on the position of the Federal Supreme Court in the United Arab Emirates about bank interest*. Paper presented at the المؤتمر العلمي السنوي الرابع عشر: المؤسسات المالية الإسلامية The fourteenth annual scientific conference: Islamic financial institutions, Dubai, UAE.
- Mahoney, P. G. (2001). The common law and economic growth: Hayek might be right. *Journal of Legal Studies*, 30(2), 503-525.
- Majid, S., & Majid, F. (2003). Application of Islamic Law in the Middle East: Interest and Islamic banking. *International Construction Law Review*, 20(1), 177-196.

- Mako, W., & Sourrouille, D. (2010). *Investment funds in MENA*. Retrieved from http://siteresources.worldbank.org/INTMNAREGTOPPOVRED/Resources/MENAFIflagshipMutualFund2_28_11.pdf
- Mansourfar, G., Mohamad, S., & Hassan, T. (2010). The behavior of MENA oil and non-oil producing countries in international portfolio optimization. *Quarterly Review of Economics and Finance*, 50(4), 415-423.
- Markaz. (2008). *The golden portfolio: Reach of sovereign wealth funds in GCC*. Retrieved from http://www.arabianbusiness.com/press_releases/detail/16664
- Markowitz, H. (1952). Portfolio selection. *Journal of Finance*, 7(1), 77-99.
- Massa, M., & Simonov, A. (2006). Hedging, familiarity and portfolio choice. *Review of Financial Studies*, 19(2), 633-685.
- Maynes, E., & Rumsey, J. (1993). Conducting event studies with thinly traded stocks. *Journal of Banking and Finance*, 17(1), 145-157.
- McAndrew, S., & Voas, D. (2011). *Measuring religiosity using surveys*. University of Manchester. Manchester.
- Méon, P.-G., & Sekkat, K. (2004). Does the quality of institutions limit the MENA's integration in the world economy? *World Economy*, 27(9), 1475-1498.
- Merton, R. C. (1987). A simple model of capital market equilibrium with incomplete information. *Journal of Finance*, 42(3), 483-510.
- Mishra, A., & Daly, K. (2006). Where do Australians invest? *Australian Economic Review*, 39(1), 47-59.
- Mohamed, S., & Sidiropoulos, M. (2010). Another look at the determinants of foreign direct investment in MENA Countries: An empirical investigation. *Journal of Economic Development*, 35(2), 75.
- Mohammed, N. (1988). Principles of Islamic contract law. *Journal of Law and Religion*, 6(1), 115-130.
- Mooney, C. Z., & Duval, R. D. (1993). *Bootstrapping: a nonparametric approach to statistical inference*. Newbury Park, CA: Sage.
- Morningstar® Principia®. (several editions 2008-2011). *Principia Pro for Mutual Funds*.
- Newey, W. K., & West, K. D. (1987). A simple, positive definite, heteroskedasticity and autocorrelation consistent covariance matrix. *Econometrica*, 55(3), 703-708.
- North, D. C. (2010). *Understanding the process of economic change*. Princeton: Princeton University Press.
- Norton, J. J., & Sari-Eldin, H. (1996). Securities law models in emerging economies. In J. J. Norton (Ed.), *Emerging financial markets and the role of international financial organizations* (Vol. 4, pp. 335-349). London: UK: Kluwer Law International.
- OECD. (2005). *Advancing the corporate governance agenda in the Middle East and North Africa: A survey of legal and institutional frameworks*. Retrieved from <http://www.oecd.org/daf/corporateaffairs/corporategovernanceprinciples/38186933.pdf>
- OECD. (2006). Ownership structures in MENA countries: Listed companies, state-owned, family enterprises and some policy implications Retrieved from <http://www.oecd.org/mena/investment/35402110.pdf>
- OECD. (2012). *The role of MENA stock exchanges in corporate governance*. Retrieved from <http://www.oecd.org/daf/ca/RoleofMENAstockexchanges.pdf>
- Omran, M., & Bolbol, A. (2003). Foreign direct investment, financial development, and economic growth: Evidence from the Arab countries. *Review of Middle East Economics and Finance*, 1(3), 231-249.
- Onyeiwu, S. (2003). *Analysis of FDI flows to developing countries: is the MENA region different?* ERF Working Paper. Allegheny College. Meadville, PA.
- OPEC. (2015). *Annual statistical bulletin*. Retrieved from http://www.opec.org/opec_web/static_files_project/media/downloads/publications/ASB2015.pdf

- Pagano, M., & Volpin, P. F. (2005). The political economy of corporate governance. *American Economic Review*, 95(4), 1005-1030.
- Pampel, F. C. (2000). Interpreting logistic regression coefficients *Logistic Regression* (pp. 19-40). Thousand Oaks, CA: SAGE Publications, Inc.
- Parks, R. (1967). Efficient estimation of a system of regression equations when disturbances are both serially and contemporaneously correlated. *Journal of the American Statistical Association*, 62(318), 500-509.
- Pendle, L. (2008). *What determines Australia's foreign equity investment?* (Bachelor of Commerce Honours Thesis), University of Sydney, Australia.
- Petersen, M. A. (2009). Estimating standard errors in finance panel data sets: Comparing approaches. *Review of Financial Studies*, 22(1), 435-480.
- Pistor, K. (2009). Rethinking the "Law and Finance" paradigm. *Brigham Young University Law Review*, 2009(6), 1647-1670.
- Platteau, J.-P. (2008). Religion, politics, and development: Lessons from the lands of Islam. *Journal of Economic Behavior & Organization*, 68(2), 329-351.
- Portes, R., & Rey, H. (2005). The determinants of cross-border equity flows. *Journal of International Economics*, 65(2), 269-296.
- Poshakwale, S. S., & Thapa, C. (2011). Investor protection and international equity portfolio investments. *Global Finance Journal*, 22(2), 116-129.
- PricewaterhouseCoopers. (2014). *IFRS adoption by country*. Retrieved from http://www.pwc.com/en_US/us/issues/ifrs-reporting/publications/assets/pwc-ifrs-by-country-2014.pdf
- Puddington, A. (2012) Freedom in the world 2012: The Arab uprisings and their global repercussions. Freedom House.
- Rajan, R. G., & Zingales, L. (2003). The great reversals: The politics of financial development in the twentieth century. *Journal of Financial Economics*, 69(1), 5-50.
- Ramady, M. A. (2010). *The Saudi Arabian economy: Policies, achievements, and challenges* (2nd ed.). New York: Springer.
- RBC Bluebay Emerging Market Select Bond Fund. Investment Strategy. Retrieved from <https://us.rbcgam.com/mutual-funds/emerging-markets-global-fixed-income-funds/fg-9/fsg-8/fid-17/individual/overview/rbc-bluebay-emerging-market-select-bond-fund.fs>
- Reed, W. R., & Ye, H. (2009). Which panel data estimator should I use? *Applied Economics*, 43(8), 985-1000.
- Reynolds, T. H., & Flores, A. A. (1989). *Foreign law: Current sources of codes and basic legislation in jurisdictions of the world*: Littleton, CO: Fred B. Rothman.
- Roe, M. J. (2006). Legal origins, politics, and modern stock markets. *Harvard Law Review*, 120(2), 460-527.
- Roque, V., & Cortez, M. C. (2014). The determinants of international equity investment: Do they differ between institutional and noninstitutional investors? *Journal of Banking and Finance*, 49, 469-482.
- Ross, S. A. (1977). The determination of financial structure: The incentive-signalling approach. *Bell journal of economics*, 8(1), 23-40.
- Salaber, J. (2013). Religion and returns in Europe. *European Journal of Political Economy*, 32, 149-160.
- SAS Institute Inc. SAS/ETS® 9.2 User's Guide. Retrieved from http://support.sas.com/documentation/cdl/en/etsug/60372/HTML/default/viewer.htm#etsug_qlim_sect021.htm
- SAS Institute Inc. (2013). *SAS/STAT® 13.1 User's Guide*. Cary, NC: SAS Institute Inc.
- Schmidbauer, R. (2006). *On the fallacy of LLSV revisited: Further evidence about shareholder protection in Austria and the United Kingdom*. University of Manchester. Manchester.
- Sercu, P., & Vanpee, R. (2007). *Home bias in international equity portfolios: A review*. Katholieke Universiteit Leuven. Leuven, Belgium.

- Serra, A. P. (2000). Country and industry factors in returns: Evidence from emerging markets' stocks. *Emerging Markets Review*, 1(2), 127-151.
- Shaaban, H. S. (1999). Commercial transactions in the middle east: What law governs. *Law and Policy in International Business*, 31(1), 157-172.
- Shari'a and Riba: Decision in Case no. 20 of Judicial Year no. 1 (Supreme Constitutional Court (Egypt) 1985).
- Sharpe, W. F. (1964). Capital asset prices: A theory of market equilibrium under conditions of risk. *Journal of Finance*, 19(3), 425-442.
- Shima, K. M., & Gordon, E. A. (2011). IFRS and the regulatory environment: The case of U.S. investor allocation choice. *Journal of Accounting and Public Policy*, 30(5), 481-500.
- Shleifer, A., & Vishny, R. W. (1997). A Survey of corporate governance. *Journal of Finance*, 52(2), 737-783.
- Siems, M. (2007). Legal origins: Reconciling law & finance and comparative law. *McGill Law Journal*, 52(1), 55-81.
- Siems, M., & Deakin, S. (2010). Comparative law and finance: Past, present, and future research. *Journal of Institutional and Theoretical Economics*, 166(1), 120-140.
- Sovereign Wealth Fund Institute. (2012). Sovereign wealth fund rankings. Retrieved from <http://www.swfinstitute.org/fund-rankings/>
- Spamann, H. (2010). The "Antidirector Rights Index" revisited. *Review of Financial Studies*, 23(2), 467-486.
- Staats, J. L., & Biglaiser, G. (2011). The effects of judicial strength and rule of law on portfolio investment in the developing world. *Social Science Quarterly*, 92(3), 609-630.
- Stewart, D. J. (2009). *The Middle East today: Political, geographical and cultural perspectives*. London ; New York: Routledge.
- Stovall, H. L. (2000). Arab commercial laws - into the future. *International Lawyer*, 34(3), 839-847.
- Stulz, R. M. (1981). On the effects of barriers to international investment. *Journal of Finance*, 36(4), 923-934.
- Stulz, R. M. (2005). The limits of financial globalization. *Journal of Finance*, 60(4), 1595-1638.
- Stulz, R. M., & Williamson, R. (2003). Culture, openness, and finance. *Journal of Financial Economics*, 70(3), 313-349.
- Sultan, N. A., Weir, D., & Karake-Shalhoub, Z. (Eds.). (2011). *The new post-oil Arab Gulf: Managing people and wealth*. London: Saqi.
- Tamimi, H. (2002). Interest under the UAE law and as applied by the courts of Abu Dhabi. *Arab Law Quarterly*, 17(1), 50-52.
- Testy, K. Y. (1997). Old questions, new contexts: Corporate law in emerging nations. *New York Law School Journal of International and Comparative Law*, 17(2-3), 503.
- The World Factbook. (2012). Retrieved from <https://www.cia.gov/library/publications/the-world-factbook/index.html>
- Tobin, J. (1958). Estimation of relationships for limited dependent variables. *Econometrica*, 26(1), 24-36.
- Transparency International. (2011). Corruption perceptions index. Retrieved from <http://cpi.transparency.org/cpi2011/results/>
- US Department of the Treasury. (2012). Foreign portfolio holdings of U.S. securities. Retrieved from <http://www.treasury.gov/resource-center/data-chart-center/tic/Pages/index.aspx>
- Vermeulen, R., & de Haan, J. (2014). Net foreign asset (com)position: Does financial development matter? *Journal of International Money and Finance*, 43, 88-106.
- Weingast, B. R. (2009). Why developing countries prove so resistant to the rule of law. In J. J. Heckman, R. L. Nelson, & L. Cabatingan (Eds.), *Global perspectives on the rule of law* (pp. 28-52). Abingdon, Oxon: Routledge.

- White, H. (1980). A heteroskedasticity-consistent covariance matrix estimator and a direct test for heteroskedasticity. *Econometrica*, 48(4), 817–838.
- Wooldridge, J. M. (2010). *Econometric analysis of cross section and panel data* (2nd ed.). Cambridge, MA: MIT.
- World Bank. (2011). *Financial access and stability: A road map for the Middle East and North Africa*. Retrieved from <http://dx.doi.org/10.1596/978-0-8213-8835-8>
- World Bank. (2014a). *Doing Business Project*. Retrieved from: <http://www.doingbusiness.org/methodology>
- World Bank. (2014b). *World Development Indicators*. Retrieved from: <http://data.worldbank.org/data-catalog/world-development-indicators>
- Xu, G. (2011). The role of law in economic growth: A literature review. *Journal of Economic Surveys*, 25(5), 833–871.
- Zweigert, K., & Kotz, H. (1987). *Introduction to comparative law* (T. Weir, Trans. Second Revised ed. Vol. 1). Oxford: Clarendon Press.

LEGISLATIONS

- Algerian Code of Commerce, Ordinance No. (75-59) of 1975.
- Amendments to Bahrain Commercial Companies Law No. (21) of 2001, Law No. (50) of 2014.
- Bahraini Commercial Companies Law, Decree No. (21) of 2001.
- Basic Law of Palestine. (2003). Retrieved from <http://muqtafi.birzeit.edu/>.
- Basic Law of Saudi Arabia. (1993 (1412 H)). Retrieved from <http://www.unhcr.org/refworld/docid/3ae6b5a44.html>.
- Basic Law of the Sultanate of Oman. (1996). Retrieved from <http://www.unhcr.org/refworld/docid/3ae6b51f4.html>.
- Civil Code of Kuwait. (1980). Retrieved from <http://www.moj.gov.kw/newlaws.htm>.
- Commercial Law of Kuwait. (1980). Retrieved from <http://www.moj.gov.kw/newlaws.htm>.
- Constitution of Kuwait. (1962). Retrieved from https://www.constituteproject.org/constitution/Kuwait_1992.
- Constitution of Lebanon. (1926). Retrieved from <http://www.unhcr.org/refworld/docid/44a24a674.html>.
- Constitution of Qatar. (2004). Retrieved from <http://www.gcc-legal.org/>.
- Constitution of the Arab Republic of Egypt. (1971). Retrieved from <http://www.unhcr.org/refworld/docid/3ae6b5368.html>.
- Constitution of the Democratic Republic of the Sudan. (1988). Retrieved from <http://www.moj.gov.sd/constitution.php>.
- Constitution of the Hashemite Kingdom of Jordan. (1952). Retrieved from <http://www.unhcr.org/refworld/docid/3ae6b53310.html>.
- Constitution of the Islamic Republic of Iran. (1979). Retrieved from <http://www.unhcr.org/refworld/docid/3ae6b56710.html>.
- Constitution of the Kingdom of Bahrain. (2002). Retrieved from <http://www.unhcr.org/refworld/docid/48b54f262.html>.
- Constitution of the Kingdom of Morocco. (1996). Retrieved from <http://www.unhcr.org/refworld/docid/3ae6b5454.html>.
- Constitution of the People's Democratic Republic of Algeria. (1989). Retrieved from <http://www.unhcr.org/refworld/docid/3ffc3b584.html>.
- Constitution of the Republic of Iraq. (2005). Retrieved from <http://www.unhcr.org/refworld/docid/454f50804.html>.
- Constitution of the Republic of Turkey. (1982). Retrieved from <http://www.unhcr.org/refworld/docid/3ae6b5be0.html>.
- Constitution of the Syrian Arab Republic. (1973). Retrieved from <http://www.unhcr.org/refworld/docid/44d8a4e84.html>.
- Constitution of the United Arab Emirates. (1971). Retrieved from <http://www.unhcr.org/refworld/docid/48eca8132.html>.
- Constitution of the Yemen Republic. (2001). Retrieved from <http://www.unhcr.org/refworld/docid/3fc4c1e94.html>.
- Constitution of Tunisia. (1959). Retrieved from <http://www.wipo.int/wipolex/en/details.jsp?id=7201>.
- Corporate Governance Code for Shareholding Companies Listed on the Amman Stock Exchange, 2008.
- Corporate Governance Code of the Kingdom of Bahrain (2011).
- Corporate Governance Regulations in the Kingdom of Saudi Arabia, Resolution No. (1/212/2006) dated 21/10/1427AH.
- Egypt Code of Corporate Governance (2011).
- Egypt Code of Corporate Governance (2005).
- Egypt Executive Regulation for the Capital Market Law, Decree No. (135) of 1993.
- Egypt Executive Regulation of Companies Law, Decree No. (96) of 1982.

Egyptian Capital Market Law, No. (95) of 1992.

Egyptian Companies Law, No. (159) of 1981.

Executive Regulation of Bahrain Commercial Companies Law No. (21) of 2001, Ministerial Order No. (6) of 2002.

Interim National Constitution of the Republic of the Sudan. (2005). Retrieved from <http://www.unhcr.org/refworld/docid/4ba749762.html>.

Iran. (1969). *Commercial Code: Treatise 1, Joint stock companies: Ratified by both houses of parliament on 15th March 1969* (M. Sabi, Trans.). Tehran: Iran: Musa Sabi: International Consultants Association.

Iraqi Companies Law, No. (21) of 1997.

Israeli Companies Law, No. (5759) of 1999.

Israeli Securities Law, No. (5728) of 1968.

Jordanian Companies Law, No. (22) of 1997.

Jordanian Corporate Governance Code [Private shareholding companies, limited liability companies, Non-listed public shareholding companies] 2012.

Kuwaiti Commercial Companies Law, No. (15) of 1960.

Kuwaiti Companies Law, No. (25) of 2012.

Lebanon Corporate Governance Guidelines for Listed Companies (2010).

Lebanon on the Land Commerce, Decision No. (304) of 1942.

Libya: Constitution Proclamation. (1969). Retrieved from <http://www.unhcr.org/refworld/docid/3ae6b5a24.html>.

Libya: Draft Constitutional Charter for the Transitional Stage. (2011). Retrieved from <http://www.unhcr.org/refworld/docid/4e80475b2.html>.

Moroccan Code of Good Corporate Governance Practices (2008).

Morocco Companies Law, No. (17) of 1995.

Oman Rules and Conditions for the Election of Directors of Public Joint Stock Companies and their Responsibilities, Ministerial Order No. (137) of 2002.

Omani Capital Market Law, Royal Decree No. (80) of 1998.

Omani Commercial Companies Law, No. (4) of 1974.

Palestine [Gaza] Companies Law, 1929.

Palestine [WestBank] Jordanian Company Law, No. (12) of 1964.

Palestine Corporate Governance (2009).

Qatari Commercial Companies, Act No. (5) of 2002.

Qatari Corporate Governance Code, 2009.

Saudi Arabia Companies Regulations, Royal Decree No. (M/6) of 1385 Hijri.

State of Israel. (2005). Constitution. *Knesset in the Government System*. Retrieved 24 June, 2012, from http://www.knesset.gov.il/description/eng/eng_mimshal_hoka.htm

Sudan Companies Act of 1925.

The Commercial Code: treatise 1, Joint Stock Companies: Ratified by both houses of Parliament on 15th March 1969 (1969).

The Lebanese Code of Corporate Governance (2006).

Tunisia Code of Best Practice of Corporate Governance (2008).

Tunisia Companies Law, No. (93) of 2000.

Turkey Capital Market Law, No. (2499) of 2007.

Turkey Communiqué on Corporate Governance, No. (28871) of 2014.

Turkish Commercial Law, No. (6102) of 2011.

United Arab Emirates Commercial Companies Law, No. (8) of 1984.

United Arab Emirates Corporate Governance Code for joint-stock companies and institutional discipline criteria, Decision No. (32\R) of 2007.

United Arab Emirates Governance Rules and Corporate Discipline Standards, Ministerial Resolution No. (518) of 2009.